TEXTILE BULLETIN

Vol. 53 September 23, 1937 No. 4

Thousands of Textile Workers...

PAY TO
40,812 PROVIDENT POLICYHOLDERS
THE SUM OF
$1,889,555.13
For Accident, Sickness, Death Benefits 1st 6 Mos. 1937
PROVIDENT
LIFE AND ACCIDENT INSURANCE COMPANY
CHATTANOOGA, TENNESSEE

Benefited from these Payments

THEY covered many types of disability, due to sickness and accidents, operations and hospitalization, as well as death benefit payments to beneficiaries.

Many thousands of textile workers now have Provident protection through Group Welfare plans operating without expense to employers except premium deductions over pay rolls.

Such welfare plans "help others to help themselves," proving beneficial factors in healthful employer-employee relationships.

Without obligation on your part, let us bring to bear the experience gained in a half-century of devising and operating Group Welfare plans to analyze your welfare problems.

EVERY 1¾ MINUTES OF THE WORKING DAY PROVIDENT PAYS A CLAIM

PROVIDENT
LIFE AND ACCIDENT
INSURANCE COMPANY
CHATTANOOGA, TENNESSEE

District Headquarters: Commercial Building, Gastonia, N. C.

INSTITUTE FOR RESEARCH OCT
IN SOCIAL SERVICE 1451 C
UNIVERSITY OF N C BOX 711
CHAPEL HILL N C

INCREASED SEEING EFFICIENCY AT LESS COST!

Every thread stands out in bold relief under the detail-revealing light of these horizontal Cooper Hewitt lamps. Vision is accurate even under the small amount of light that reaches the out-of-the-way recesses of a warp harness. Threading is almost effortless. Eye-strain is unknown.

By adding incandescent lamps to the mercury within the fixture, lighting is obtained that closely resembles daylight values for operations that require perception of color.

The detail-revealing light of mercury vapor is now produced at 22% less cost. And, the new unit hangs horizontally to give the best distribution of the soft, non-fatiguing light which its long lamp provides. Starting is instantaneous. Power factor is high.

Get full details about these improved units. They are made in two sizes: 50 inches long operating at 350-watts; 33 inches long using 275-watts. Bulletin 827DM illustrates their many advantages for you. Write for a copy. General Electric Vapor Lamp Company, 895 Adams Street, Hoboken, New Jersey.

GENERAL ELECTRIC
VAPOR LAMP COMPANY

831C

PUBLISHED EVERY THURSDAY BY CLARK PUBLISHING COMPANY, 118 WEST FOURTH STREET, CHARLOTTE, N. C. SUBSCRIPTION $2.00 PER YEAR IN ADVANCE. ENTERED AS SECOND CLASS MAIL MATTER MARCH 2, 1911, AT POSTOFFICE, CHARLOTTE, N. C., UNDER ACT OF CONGRESS, MARCH 2, 1897.

TEXTILE BULLETIN

Vol. 53 September 23, 1937 No. 4

Control of Variables in Rawstock Dyeing*

By J. H. O'Neil

TO the average individual who is not acquainted with dyeing and manufacturing problems and variables, it is hard to explain why he can so seldom duplicate in the same fabric the exact shade of material he bought six months or a year ago. Certainly no explanation would make a prospective purchaser satisfied to accept two shades in the same garment and yet we know that in the making of certain fabrics, even slight variations are magnified in processing and cause distinct shades in the finished cloth.

Since these shades present a very real problem to the cutters, it is becoming increasingly difficult to dispose of such goods, and the variables responsible for them must be controlled more closely than ever before.

Those of you who are responsible for the control of shades in rawstock dyeing no doubt have problems peculiar to your own plants, but there are also a great many problems that we have in common and a discussion of them would probably be of benefit to all of us.

The first variable encountered is in the cotton itself, coming as it does to the average mill in a number of grades, varying shades of white and sometimes tinged. This, of course, can be controlled by adopting and maintaining a uniform blend of from twenty to forty or more selected bales, which are usually run through an opener for the preliminary cleaning and blending before baling for the dyehouse. Samples of each mix should be taken and compared to avoid the risk of trouble with light shades.

These bales should be reweighed just before loading in the machines and the tags, with the bale and machine numbers, the sum of the two bales, allowance made for bagging and ties and the amount added or deducted, sent to the office to be checked for accuracy. Before making this checkup a matter of routine, we traced heavy and light dyeings to mistakes in weighing and calculation of the amount loaded.

Our dyeing is done entirely in the Morton single circulating pressure type machine with the liquor flowing through a perforated plate attached to the lid, down through the load and the perforated false bottom, back into the circulating tank where the belt-driven centrifugal pump picks it up and circulates it. It is also equipped in our case, and I believe in most cases, with air connections to a compressor for aeration of the stock.

My remarks will be confined to this machine since machine variables are somewhat limited and similar in character. In bleaching out the machine between colors, we use chloride of lime, and in tracing down the tendency of our first batch on a continuous run to check up light, we found that some of the bleach liquor was being left in the convex shaped bottom of the machine. To overcome this we made it standard practice to remove the false bottom and clean out thoroughly, resulting in better matches of a large batch with a single batch, as is often necessary to complete an order. The later Morton machines have a concave bottom with a drain in the center, and do not require this extra operation.

The method of loading which has worked out best for us is to pack the cotton in thin layers around the outside of the machine with the highest and most tightly packed point where the liquor enters from the top, leaving a small hole in the center to aid circulation.

We have traced uneven dyeings in these machines to insufficient pressure caused by slack belts and pumps in need of overhauling, to air pockets caused from a leaking air valve, to careless loading of the stock, and in the case of a vat color, to using too much alkali in the springing bath. We have also had trouble with leaking drain valves causing a loss of dyestuff, at first negligible but gradually increasing, with a natural tendency of the batches coming up lighter, and unevenly dyed where the loss of head in the circulating tank is sufficient to affect the pressure. Since the shade change is gradual, it is easily overlooked and therefore dangerous. Our machine operator is instructed to note and report any loss of volume in the circulating tank during the course of each dyeing. Watching the pressure gauge, checking temperatures, and making changes are his responsibility, and a copy of the running formula for each machine must be kept constantly before him.

Standards are very essential in the weighing and boiling up of drugs. Cleanliness of equipment, such as scoops, buckets, balance pans, etc., keeping all dyestuff drums covered while weighing to avoid dusting, weighing according to the standard methods used in the plant, all these must be drilled into the drug weigher until they become

(*Continued on Page 24*)

---

*Presented at meeting of American Association of Textile Chemists and Colorists.

Textile Operating Executives of Georgia Discuss Slashing and Weaving

THE Fall Meeting of the Textile Operating Executives of Georgia convened in the Chemistry Building on the campus of the Georgia School of Technology, in the City of Atlanta, Ga., at 10 o'clock a. m. on Saturday, September 18th, and was called to order by the General Chairman, V. J. Thompson, of Griffin, Ga.

General Chairman Thompson: Mr. Platt is going to lead the discussion of Slashing this morning, so we will turn the meeting over to Mr. Platt now.

Chairman Platt: We have a guest speaker with us, and I will ask Bob Philip to introduce him.

At this point Mr. Philip, Secretary of the Association, introduced U. E. Dubois, of the Saco-Lowell Shops, who has concentrated his time and effort to a great extent in the development of the new high speed slasher system.

Mr. Dubois' address appears in another part of this issue.

Chairman Platt: We wish to thank Mr. Dubois for his helpful talk, and if there are any questions that anyone would like to ask, let's have them now, and we will ask Mr. Dubois to answer them. Are there any questions?

Mr. Rogers: Would it be well to explain how he gets the stretch?

Mr. Dubois: As I said, at the back of the machine, there is a set of dry rolls. The rate of delivery from that group of rolls is tied in with the delivery end of the machine itself, and as both are measured together the difference between the two will determine the stretch. If you pull 100 yards in front, and take off 101 yards in the back, you have a difference of 1 per cent.

Mr. Rogers: Have you made any attempt to ascertain the contraction of the yarn as it passes through the size solution?

Mr. Dubois: I think passing through the size solution the yarn will stretch rather than shrink. As it goes through the solution the yarn will stretch because it will stretch when it gets wet. In the tests we have made they show that a large percentage of the total stretch happens at the back of the size roll before the first nip between the creel and the back squeeze roll.

Mr. Rogers: Is there a differential between the control apparatus and the size roller?

Mr. Dubois: Yes. There is this difference. The measurement is made from the top roll.

Mr. Rogers: I mean the rolls in the size box.

Mr. Dubois: No. They remain constant.

Mr. Rogers: I mean the surplus speed between one of the copper rolls in the size box.

Mr. Dubois: No, We have made adjustments very recently under favorable circumstances between the size box and the drying unit to correct the variation you mention now. That may be an adjustment of simply a trifle, or practically nothing at all, but we should consider it because some yarns may be different from others.

Chairman Platt: Have you determined what stretch there is between your control roll and the warper beam?

Mr. Dubois: We did make tests of that a good many years ago and we found if the beams were properly aligned the scale measurements we were able to make showed practically none at all.

Chairman Platt: Is there any other question that we want to raise on this before we proceed? (No response.) We want to thank Mr. Dubois again for his service.

Maximum and Minimum Stretch

Now we have our first question, which is as follows: "(a)*What is the maximum and minimum amount of stretch that it is safe to have on a slasher? State your yarn numbers, whether or not your slashers are positive-drive, your method of determining the stretch, and your means of checking your counters or other method of measuring the stretch.* (b) *We would like to have in detail experiences of mills in the use of positive-drive creels on slashers.*"

Mr. Jennings, Fairfax: We figure 1½ to 2 per cent stretch on yarns. We put the counter on the section beam and determine it.

Chairman Platt: The counter bears down on the beam? A. Yes.

Chairman Platt: Do you have any means of checking your counters? A. No, we don't.

Mr. Horton: We figure 1½ to 2 per cent. We check it by marking right on the back of the rolls and following those marks on through. We do not have positive drive. Yarn numbers from 15 to 22.

Mr. Cobb, Canton: We are getting about ¾ to 1 per cent of stretch on the slasher with positive drive on 8½s yarn. Our way of determining this is by measuring between cut marks. The cut marks are 72 yards. The product is put on the floor and we take a steel tape and measure it and find it is about ¾ to 1 per cent stretch. That's on several tests.

Mr. Harris, Muscogee Mills: We have positive drive on our slashers. We have about 1½ per cent stretch. We run 1,000 yards and check the difference in the amount run off the front and yards creeled.

Chairman Platt: The question arises as to whether this counter resting on the loom beam jumps a little and throws you out some. Have you checked on that? A. No, sir.

Mr. Cooper: Our stretch runs from ¾ to 1 per cent.

Chairman Platt: Under this "(b)" part of the question, where we state that we would like to have in detail experiences of mills in the use of positive drive creels on slashers, what we refer to there is, if you use positive drive creels on your slashers, what has been your experience with them? Have you profited by their use?

Mr. Harris: We have a positive drive. We have cut our waste 35 per cent and stretch about ½ of 1 per cent.

Mr. Philip: You cut out half of 1 per cent stretch?

Mr. Harris: Yes.

Question: He says he cut the waste down. Was there any noticeable effect on the weaving?

Mr. Harris: The weaving was improved considerably on all types of our looms.

Question: Do you know what percentage of increase was shown?

Answer: It varied on different types of work. We speeded up some of our work as much as 5 per cent.

Mr. Philip: Were you using it the same on all warp numbers?

Answer: The same on coarse as on fine. I can't say exactly what the increase was as definite results, but all of our work has improved.

Mr. Philip: Did you speed up the slasher any?

Answer: Quite a lot. We run up to about 65 yards.

Chairman Platt: How many ends?

Answer: That runs on light sets 450 ends, 14s, on up to about 2,000.

Tapioca Starch and Sago Flour

Chairman Platt: We come to Question No. 2, which is as follows: *"We are interested in securing a discussion on the use of tapioca starch and sago flour in the slashing of yarns. If you are using either of these, alone or in combination with corn starch, please give us in detail your experience and results. If used together, in what proportion?'*

Before we start this discussion on this question I might ask Mr. Philip to introduce a gentleman who will give us some information along this line.

Mr. Philip: We come again to a case in which we feel it might be helpful if we brought in from the outside someone who had been giving concentrated attention to a subject.

The Association is not concerned with endorsing or condemning any process, method, product, or material. We conceive ourselves as an open forum for the purpose of bringing out the experiences of the members on different machines and on different materials. I make that explanation that you may clearly understand that in bringing up the subject of the various types of starches it is not a matter of concern to the Association whether the reports on any type of products are satisfactory or unsatisfactory.

We will be glad to have Dr. Walter P. Schreiber, of the Department of Agriculture to speak to us briefly now.

Starch

(By Dr. Walter P. Schreiber)

Despite the importance of starch in our industries and despite the large amount of research which has been done on starch, our knowledge of the product is far from satisfactory.

For some time the Bureau of Chemistry and Soils, in conjunction with the Alabama Polytechnic Institute, have been doing work on the warp sizing process. The immediate objective of these co-operators and that of the textile industry are undoubtedly the same, namely, to learn as much as possible of the use of starch in the warp sizing process.

As more information becomes available, it is felt by these co-operating agencies that sweet potato starch may well play an ever-increasing role as a raw material in the textile industry.

As you know, sweet potatoes can be grown abundantly in the South on cheap land. Ordinary sandy loam soil in the South will produce more pounds of starch per acre from a sweet potato crop than from any other crop. In fact, the claim is made that more starch can be produced from sweet potatoes on a Southern acre than can be produced in any other section of the country growing this crop or any other crop. It may be mentioned that sweet potato starch is now being produced commercially in a plant in Laurel, Miss.

Irvine describes starch as a product which is not a homogeneous chemical individual. The expression "starch" is applied generally to a variety of closely related compounds, which share the common property of conversion by standard processes into glucose, and to which an empirical formula ($C_6H_{10}O_5$) may be applied. Starches differ greatly in the extent to which inorganic and acid residues are combined in the complex, and they also show considerable divergency in the degree of polymerization which the parent molecule has undergone.

Data seem to indicate then that the differences in starches are in a large measure dependent upon the degree of polymerization and to the extent in which inorganic or acid substitution products are introduced in the course of the natural formation of the starches. A homely example might be to say that the bricks used to build the various starches are very similar; yet the cementing materials and the way the starch houses are built vary.

More specifically the so-called root starches contain a greater percentage of phosphorous combined in the starch moecule than do the cereal starches. It is this compound which seems to be in a large part responsible for the high viscosity of the root starches. However, the fatty acid combined as a starch complex are found to a much greater extent in the cereal starches.

Then, too, the ratio of the Alpha and Beta starch varies in the different starches. The former, sometimes known as amylo-pectin—the outer portion of the cell, which when heated in water gives a cloudy solution and upon the addition of iodine a reddish purple color; while the latter, sometimes called granulose, is completely soluble in water and gives a blue reaction with iodine. The alpha starch in potato starch is around 2 per cent, in corn about 15 per cent.

The practical warp sizing operator is perhaps more interested in the pasting point of the starch or better in the length of time required to cook the starch before it is used. As a general rule the viscosity curves—viscosity plotted against cooking time—of the cereal starches give somewhat flatter curves than do the root starches. The viscosity curve of potato starch rises fairly rapidly and falls the same way. It is obvious then that the cooking time of the potato starches requires more attention than it does for the cereal starches, i.e., of course after gelatinization is complete.

It must be remembered, however, that the viscosity cooking time curves for any of the starches are neither fixed nor are they the same day in and day out. The viscosity of a starch is dependent to some extent upon the history of the starch—perhaps upon the soil in which it is grown, climatic conditions during the growing season, treatment during manufacture, and upon the age of the starch. All in all, starch is a most complex and at times baffling compound. The starch you buy today may or may not be the same as you bought yesterday—at best it only possesses properties which are very similar, but not identical.

With the fact in mind, we in Auburn feel that a possible way to determine the results which could be expected from any particular shipment or bag of starch, was to try it out on a small scale. For this purpose a miniature experimental slasher was built. This small slasher with a starch capacity of less than a pint gives results quickly, results that check fairly closely with larger scale work.

Then, too, we in Auburn have been interested in being able to test a sized yarn and from its physical properties predict how well it will weave. This of course entailed a

(Continued on Page 16)

Problem PAGE

Devoted to Practical Questions and Answers Submitted by Our Readers

Wants Warp Contraction

Editor:

I would like to know what per cent is allowed in warp contraction?

I believe that we are spinning more yarn than is necessary for the amount of cloth we are getting.

"SWIVEL CHAIR."

Reply To "Wool Mix"

(Cotton and Wool Mix)

Editor:

I have been faced with the same problem that you have, or at least it sounds like the same thing from your question, and am glad to pass what information that I have along to you.

It is possible to work this wool and cotton mix on standard cotton settings and with the same equipment that is used for cotton. It might be a good idea to slow up the speed of the cards unless you are running fairly slow now, but other than that there should be no other changes necessary. A carding speed of about seven or eight pounds per hour will give more satisfaction than a faster speed.

Another thing that we had trouble with, and that you will probably be faced with, is that the wool has a greater tendency to come off on the clearers than the cotton. If you start off with a fifty-fifty mix you will end up with considerable less wool than cotton, and my advice to you would be to start off with about sixty per cent wool and forty per cent cotton. Of course, this will not hold true in all cases, and it will more than likely be necessary for you to experiment to find the correct proportion, but I can tell you that in order to get a fifty-fifty proportion at the end it will be necessary to start with more wool than cotton.

There is no reason to change any of your speeds. The mix will run with the regulation speeds of cotton, and except for the tendency of the wool to come off more on the clearers than the cotton, I think you will find that the running of this mix is much simpler than you anticipate.

"BEENTHERE."

Wants Dope On Shuttles

Editor:

Will some foreman or fixer explain why some makes of shuttles have short blunt shoulders while the most of shuttles are more tapering?

"A LOOM FIXER."

Savings On Inspecting Machine?

Editor:

We are producing about 100,000 yards of cloth per week and we have four hand inspectors to take care of this cloth.

Now, if I use an inspection machine, can one inspector do the work that it now takes four to do?

"FORWARD."

Reply To "Thinker"

(Flutes Affect Delivery of Yarn)

Editor:

No, the flutes in the steel rolls do not increase the length of the roving beyond the circumference of said roll.

If it does, it must lose itself somewhere in the twist to such an extent that no one has ever been able to find it.

"COTTON RESILIENCE."

Reply To "Young Fixer"

(Wants Settings for Dobby Head)

Editor:

The timing of a double lift, rocker motion dobby head, is as follows:

Set the crankshaft of the loom on bottom center with the chuttle in the right hand box.

Move the connecting rod on the dobby until the dobby crankshaft is on its back center and set the rocker perpendicular.

After tightening all bolts and set screws turn the loom until the bottom knife is at its extreme inward position and then set the knife ¼ inch back of the notches in the hooks.

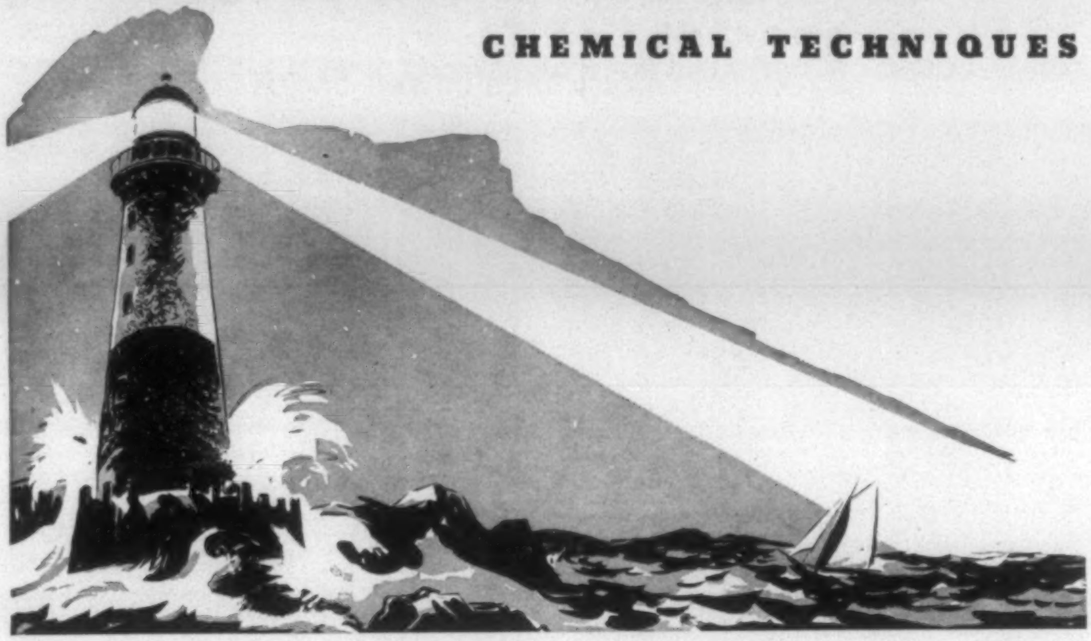
Turn the loom over and set the top knife in the same manner.

Keeping the loom in this same position, set the cylinder so that the pegs in the chain will be giving the fingers for the top knife (the knife that is in) their full lift. Now with the cylinder in this position turn the worm until that portion that gives the pause is operating on the worm-gear on the end of the cylinder.

Be sure to have the chain bar directly under the fingers when the cylinder stops, otherwise the knife might miss one or more hooks causing a misspick.

"BEENTHERE."

•STEADIER GOING—IN THE LIGHT OF CHEMICAL TECHNIQUES



WITH A WELL-KNOWN LINE OF

DYEWOOD EXTRACTS

American Cyanamid is the sole selling agent for the Taylor White Extracting Company of Camden, N. J., whose Dyewood Extract line is one of the oldest and most highly regarded in America. Your orders for the following will receive Cyanamid's prompt attention:

FUSTIC **OSAGE ORANGE**
HEMATINE **QUERCITRON BARK**
LOGWOOD **HYPERNIC**

In Paste, Crystal and Solid Forms

SUMAC EXTRACT ORDINARY & STAINLESS
CUTCH EXTRACT **GAMBIER EXTRACT**
DIVI DIVI EXTRACT **QUEBRACHO EXTRACT**

You will receive the same efficient cooperation in the handling and use of Cyanamid's complete line of SIZING COMPOUNDS, SULPHONATED OILS, PENETRANTS, WETTING AGENTS, ACIDS, ALKALIES, HEAVY CHEMICALS, TAPIOCA FLOUR, SAGO FLOUR, GUMS, WAXES, WOOL GREASE, PIGMENTS and FILLERS.

In addition to our line of Textile Specialties Cyanamid also continues the sale of those of the former Chas. H. Stone, Inc., and H. A. Metz & Co., Inc., including the well-known Victoria line of oils and softeners.

AMERICAN CYANAMID & CHEMICAL CORPORATION

30 ROCKEFELLER PLAZA • NEW YORK, N. Y.

District Offices: 822 W Morehead St., Charlotte, N. C. • 89 Broad St., Boston, Mass. • 600 So. Delaware Ave., Cor. South St., Philadelphia, Pa.

New Slashing System*

By U. E. Dubois, Saco-Lowell Shops

IT is with sincere appreciation that we thank your committee for the privilege of being here to talk with you today.

The discussions, I am told, are to deal particularly with the subjects of Slashing and Weaving. Therefore, the recent announcement of a new slashing system should be of particular interest at this time.

The art of slashing warps preparatory to weaving has seen practically no change in the past half century. It consists today as it always has of assembling warp threads in a mass, immersing them in a solution of starch, drying out the moisture, separating the individual strands, and winding on to a package suitable to the loom. Such are the fundamental functions of all slashing systems in use today. Very true, much thought has been given to transgress from these known operations, but, to date, none have been found satisfactory or even practical. The same holds true of the principal processes in the textile industry since it changed from home and hand operation to mass mechanized production. Perfection of existing methods of operation has appeared to be more encouraging than complete revolution from accepted and tried methods. So it is with slashing.

Many years ago a long range program was instituted to study and improve each individual process in the cotton spinning industry. Obviously such a program could only be undertaken a step at a time, and, while there has been some overlapping, the slasher came up for active consideration about three years ago. Previously, many improvements had been made and applied on the existing machines so as to take advantage of the betterments as they came along. In the meantime, ideas were suggested which could not be incorporated effectively in the current slashing system. The productive capacity of the slasher had been established, and it was evident that if quality was to be bettered, even when productive capacity was to increase, the slashing operation had to be completely revamped.

The purpose was not simply to build something different. Very early in our investigations it was clearly evident that in order to fulfill present-day requirements, warps were needed having uniformity of moisture, uniformity of solids properly applied so as to reduce to a minimum shedding at the slasher as well as at the loom. Tension on the loom had to be reduced, stretch controlled so as to reflect better efficiency in the weave room as well as show improvement in the finished cloth. If productive capacity could be increased so much the better.

These conditions in themselves constituted a real problem impossible to solve simply in the design of a new machine. Obviously a complete process had to be worked out.

The main divisions I mentioned a moment ago are now further subdivided. Let us consider them in their proper order and see how each stage contributes its shape in the realization of the condition just mentioned.

There are a few processes in the art of composite spinning where one operation will correct irregularities from a previous operation within certain reasonable limits. The slasher is not one of these. Therefore, if the section beams brought to the slasher are of the highest quality, the best the slasher can do is to deliver to the loom yarn of equal quality. It cannot be better. This fact cannot be emphasized too strongly because today in the new slashing system the condition of the section beams becomes one of the major limitations, which will prevent you from making use of the drying capacity of the new machine.

Let as assume therefore that we have better than average section beaming. When the old machine was first designed, a 24-inch diameter beam was common practice. Such a beam weighed approximately 470 lbs. gross, and was expected to unwind at an average speed of about 40 yards per minute. Since high-speed warping has become standard the diameter of the beams has changed to 28 or 30 inches and these weigh approximately 725 lbs. gross and are expected to unwind twice as fast. Obviously this condition could only be met with a new creel, properly designed and strengthened. Anti-friction bearings are necessary for two major reasons. First, to insure free rotation, and, second, to obtain assurance of straight beam arbors. These special bearings, being lint proof, are a safeguard against roughened or dirty open bearings, not an unusual condition as you all know.

The efficiency of any machine is in direct proportion to the time it is in production. For this reason it becomes necessary to reduce stopping time as much as possible. There is no set time limit to creel a slasher. Styles control this operation, which consumes anywhere from 20 minutes to ten hours. Suppose your work requires two hours for creeling and your set lasts 16 hours; you have lost two hours out of a total 18 hours. Let us further suppose that the speed has doubled and that the set lasts eight hours; the two-hour creeling becomes a loss of two hours in a total of ten hours.

To meet this condition we advocate the use of double creels, when space allows, so that one creel can be filled while the machine is producing and the actual stoppage time can be reduced to a matter of minutes.

And now we come to the second stage of the journey of our warp in preparing it for "better weaving."

The hundreds of ends have been assembled in a sheet and the first step is accomplished without changing materially the characteristics of the individual yarns.

There is hardly need of taking time to describe the methods of feeding this sheet of warp to the size solution. Everyone is familiar with it.

In the new system of slashing the sheet from the creel is drawn by a group of rolls at a predetermined speed in

(*Continued on Page 11*)

---

*Paper presented at meeting of Textile Operating Executives of Georgia, September 18th.

IS YOUR GAME "OFF"?

If your golf needs improving, we can't help you. Your professional is the man for that job. But if you have a troublesome problem connected with starches, dextrines or gums for textile sizing, printing or finishing, we can help you. With over 70 years' experience, five research laboratories manned by skilled chemists, and a technically trained field staff, we solicit an opportunity to serve you with our products, and assist you in obtaining maximum results.

STEIN, HALL & COMPANY, INC.
285 Madison Avenue New York City

STARCHES, DEXTRINES AND GUMS FOR

SIZING · PRINTING · FINISHING

WHAT'S NEW

In Textile Mill Equipment and Processes

Improved Roving Can By Sonoco

Sonoco Products Company, Hartsville, S. C., have announced the development of an improved roving can, which is now on the market. The present can is the result of several years of development. Sonoco has been making roving cans for a number of years but recently has developed a can of greater strength and durability. Substantially the Sonoco can is made of heavy laminated board. The manufacturers explain that it is treated by a special process to give it added strength. The can is reinforced with metal top and bottom; heavy one-piece cold drawn steel bottoms are riveted to the seven-inch metal kick band; a heavy one-piece seamless metal top rim encircles the top, inside and out.

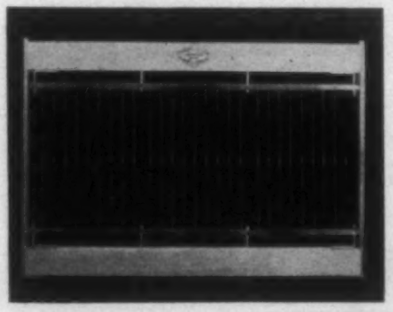
These cans are made in standard green and maroon colors and have received widespread use under varying conditions.

Emmons Announces New Heddle Frame

In its tubular aluminum end heddle frame, the Emmons Loom Harness Company, of Lawrence, Mass., has made a heddle frame new in design and construction available to the industry.

This new frame has been built to retain its rectangular shape, it is claimed, under severe operating conditions.

In a description of the frame, the manufacturer states that it is constructed with ends of tubular aluminum, rigidly braced with flat end plates and secured with hexcap or philistic head bolts. The result of this construction is a durable frame that is light in weight.



It is further stated that all parts are rust-resisting—all points guarded against vibration. In making this tubular aluminum frame available to textile mills, Emmons announced that it might be equipped with the new one-piece locking system, for locking the bars within the frame, or standard as desired.

The one-piece bar locking system holds the heddle bars securely within the frame as shown in the accompanying illustration. Because of the construction of the one-piece locks, the heddle bars can be easily and quickly inserted or removed from the frame.

It is claimed that the new bar locks hold the bars so firmly during operation that there is practically no vibration.

The Emmons Loom Harness Company will be glad to furnish additional information on this new frame.

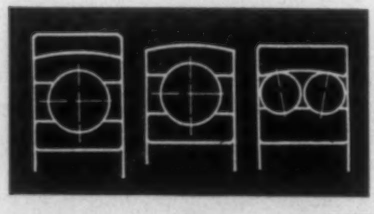
Self-Aligning Bearings Made By Fafnir

Three distinct types of self-aligning ball bearings are now offered by the Fafnir Bearing Company, New Britain, Conn., in a full range of sizes, according to announcement by the company. Wherever this style of bearing is necessary, Fafnir offers a self-aligning construction to meet every normal requirement.

In the "B" type Fafnir bearing the conventional outer ring is made with its outside surface spherical instead of cylindrical. A concave inner surface in the housing, which corresponds to the convex outer surface of the ring, permits the bearing to swivel into true alignment with the shaft, according to the makers.

The Fafnir "S" type permits the conventional cylindrical inner surface of the housing to be retained, by providing an extra self-aligning ring with a concave inner surface. This extra ring surrounds the spherically ground outer bearing ring proper to form the alignment socket. Advantages claimed are: Requires only simple, straight-bore housing; easy mounting similar to ordinary radial bearings; and ring-to-ring contact with no movement against the housing.

The "L" type gives self-alignment from within the outer bearing ring, permitting housing to be both straight bored and of minimum diameter. A double row of balls is used in all Fafnir "L" type bearings, including single row widths. The two rows of balls, tracked by two races on the inner ring, are left free to locate themselves in one spherical race on the outer ring. Here, the balls themselves roll the inner ring and shaft into alignment.



S Type B Type L Type

These Fafnir self-aligning bearings are available in single row and double row type, and also in the well-known wide inner ring type.

New Slashing System

(Continued from Page 8)

a dry nip which prevents slipping. This unit known as the stretch control and feeding rolls has been on the market for about three years and has been applied to a large number of existing machines. The benefits derived have been so outstanding that it became one of the developments, which made a major program of slashing improvements possible. After many tests under all sorts of conditions it became pretty well accepted that an average stretch of 1 to 1½ per cent is about ideal in the slashing operation. Naturally, the overall stretch in grey yarns varies with the size yarn, grade of staple and twist. A reasonable average figure used so far is 6 per cent and it appears to cover more than the ordinary range of counts and conditions. Studies have shown definitely that weaving efficiency suffers when excessive stretch is applied to the warp in sizing. By the same token efficiency improves by controlling the stretch to a reasonable minimum. A recent case will interest you. A large mill installed stretch controls on two of their slashers and isolated a group of looms to use the beams from these slashers, making no other change. Efficiency increased by .6 per cent on the day shift and 1.2 per cent on the night shift—averaging .9 per cent.

In a fine goods mill the speed of the slasher was increased up to drying capacity by correcting the tendency to drag the warp into the size solution by the uncertain bite of the size rolls.

You will recall I mentioned a moment ago one of the objectives is to produce warps with uniform solid content in the yarn. In order that this may be assured complete size compounding, preparation, storage, circulation and engineering must be a part of the new slashing system.

I have purposely omitted any mention of starch solution until now. Scientific methods to prepare size have been devised so as to provide a constant supply of blended size, formulated to deposit the proper percentage of solids, uniformly, solids that will remain on the yarn without excessive shedding at the slasher or at the loom.

All of you realize the importance of properly prepared size but scientific preparation takes a more serious aspect when you consider the heavy consumption at the higher speeds. Cooking and storage schedules have to take into account the cycle from the time the batch is first made up until the wet sheet strikes the hot cylinders, to prevent the possibilities of applying uncooked or over-cooked starch that will gum or flake and cause trouble.

I don't believe it necessary to say more on the necessity of providing scientific preparation to size solutions compounded for your particular constructions that will produce uniform weight goods woven efficiently.

We advocate cooking starch in small batches so as to provide a more constant blend of fresh size to prevent thinning while circulating, through a closed loop.

I understand that there will be further discussions on this subject later.

To return to the slashing system, we now assume that we have a size box, filled with the proper size, kept under ideal conditions, again through controlled apparatus which guarantee a constant level at unvarying temperature.

(Continued on Page 22)

Laurel Finishes

Maintain

FINISHING STANDARDS

Avoid the maze of finishing and production problems. Use Laurel Finishes. They are geared to the jobs to be done today. They help you meet Fashion's demands for the unusual in silk, cotton, linen, wool or rayon, or their combinations.

Laurel Finishes are easy to use. They're adaptable to your processing methods. They enable you to maintain your finishing and production standards.

Ask our representative to tell you some of the Laurel Finishing success stories. Or, if you prefer, write us direct about your problem.

Laurel Soap Mfg. Co., Inc.
Wm. H. Bertolet's Sons
2607 E Tioga St., Philadelphia, Pa.
Warehouses
Paterson, N. J. Chattanooga, Tenn. Charlotte, N. C.

Betty

CANNON

"THE most helpful result of electric power is in the quality of production made possible by the constant, even transmission of power to the spinning and weaving machines. The result of the more even-running machinery is a more uniform fabric, yielding longer life and greater efficiency."

Martex

"THE application of direct-connected motors...has resulted in higher machine speeds with greater unit production. Many electric devices for detecting faults and for automatic operation have made the work load less burdensome for employees."

GENERAL

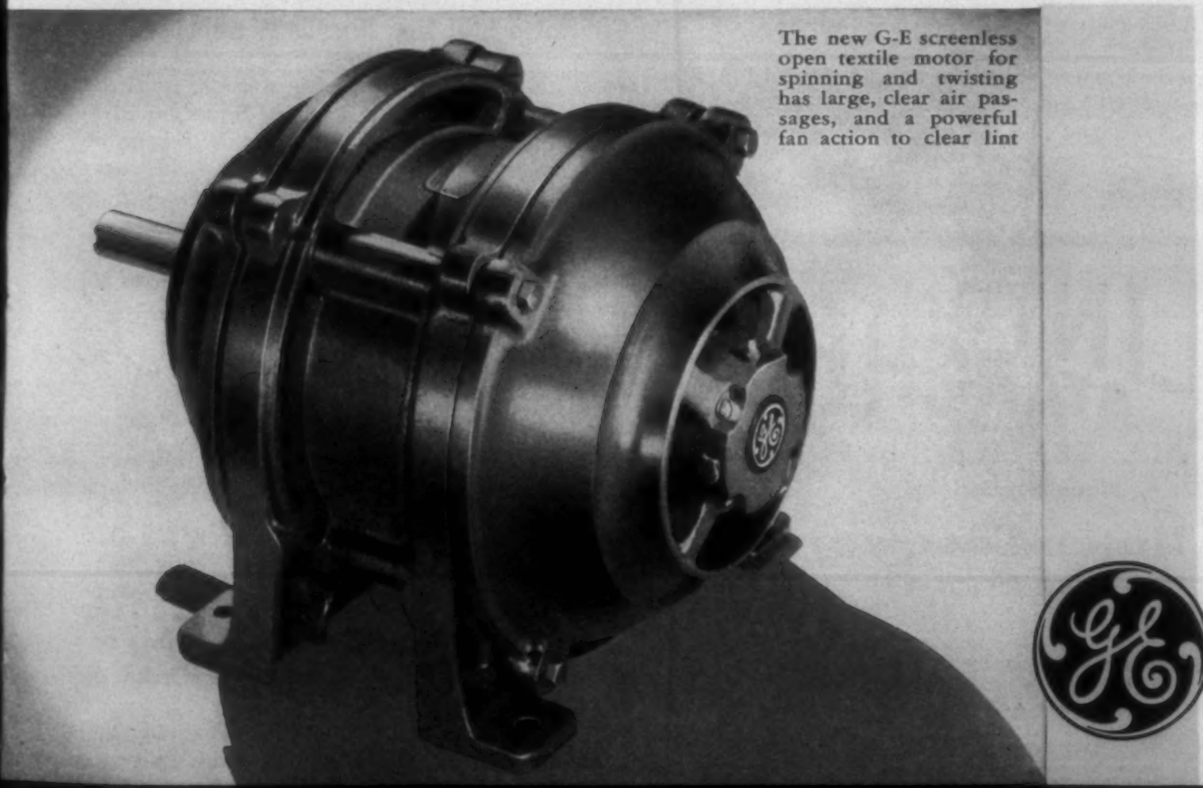
likes big soft towels

TODAY, buying well-made, stylishly colored big bath towels is almost as matter of course as ordering groceries. Yet scarcely more than a generation ago, "turkish" towels were more for display than for use, in the ordinary household.

This development of the bath towel from a luxury to a necessity is, in itself, proof of the progress that has been made in merchandising and manufacturing methods. Today, big soft bath towels are available in more and more styles and sizes. They absorb moisture quickly and easily, and their colors are fast.

In the progress that has made possible more and better towels for more people, General Electric has had a part—it has made available more and more of the benefits of electric power. G-E application engineers have co-operated continually with textile-machinery engineers in effecting improvements.

Consult the nearest G-E office for information on electric apparatus or its application, or write General Electric, Schenectady, N.Y.



The new G-E screenless open textile motor for spinning and twisting has large, clear air passages, and a powerful fan action to clear lint

011-162

ELECTRIC

Personal News

H. H. Taylor, formerly of Greer, S. C., is now a member of the office force of the Randolph Mills, Franklinville, N. C.

F. N. Moore, formerly of Cramerton, N. C., is now overseer weaving at the No. 1 unit of the J. W. Sanders Cotton Mills, Inc., Starkville, Miss.

J. N. Jones, formerly overseer carding and spinning at Phenix Mills, Inc., Plant No. 1, Kings Mountain, N. C., is now general overseer carding at the Riverdale Mills, Enoree, S. C.

William Stewart, for some time treasurer of Southeastern Cottons, Inc., has been elected executive vice-president of that organization. He will continue to act as the company's treasurer.

Cotton Spindles Are More Active

Washington.—The Census Bureau reported that the cotton spinning industry had operated during August at 130.5 per cent of capacity, compared with 121.9 per cent during July this year and 115.8 per cent during August last year.

Spinning spindles in place August 31st totalled 26,923,712, of which 24,353,102 were active at some time during the month, compared with 26,987,716 and 24,391,782 for July this year, and 28,065,518 and 23,433,658 for August last year.

Active spindle hours for August totalled 8,184,561,738, or an average of 304 hours per spindle in place, compared with 7,665,035,632 and 284 for July this year, and 7,573,009,997 and 270 for August last year.

Spinning spindles in place August 31st in cotton-growing States totalled 18,831,686, of which 17,775,110 were active at some time during the month, compared with 18,896,138 and 17,751,056 for July this year, and 19,038,542 and 17,269,442 for August last year.

Active spindle hours for August in cotton-growing States totalled 6,385,888,033, or an average of 339 hours per spindle in place compared with 5,929,989,364 and 314 for July this year, and 5,853,804,413 and 307 for August last year.

Active spindle hours and the average per spindle in place for August by States follow:

Alabama, 623,363,383 and 327; Georgia, 1,053,176,372 and 324; Mississippi, 57,776,972 and 280; North Carolina, 1,789,716,090 and 296; South Carolina, 2,287,743,965 and 402; Tennessee, 222,316,463 and 352; Texas, 81,966,744 and 321, and Virginia, 220,849,904 and 331.

Du Pont Awards Contract For Recreational Unit

Waynesboro, Va.—The contract has been awarded to the John C. Senter Construction Company of Roanoke, Va., for the erection of a new $75,000 recreational building to be constructed at Waynesboro by the Du Pont Company at the local unit. The new structure is scheduled to be completed by February 1, 1938, and will be of brick and cinder block, painted white, and will provide an auditorium, lounge, billiard room, social hall, bowling alleys, locker rooms and showers. Work on the building is to be started at once.

Charlotte Mill Has Fire in Warehouse

Charlotte, N. C.—Fire broke out in a warehouse at the Highland Park Manufacturing Company September 21st, but little damage was done to the hundreds of bales of dyed long staple cotton which was stored in the warehouse. The damage was estimated at $500.00.

The warehouse was equipped with a sprinkler system, and firemen said that this was what prevented a spreading of the fire. The cause of the blaze was said to be spontaneous combustion.

Textile Institute Appoints Industry Tax Committee

An industry tax committee was appointed by Dr. C. T. Murchison, president of The Cotton-Textile Institute, at a meeting of the Institute's executive committee. The committee comprises Robert West, of Riverside & Dan River Cotton Mills; Bernard Cone, of Proximity Manufacturing Company; Amory Coolidge, of Pepperell Manufacturing Company; Russell Fisher, president of the National Association of Cotton Manufacturers; Fred W. Symmes, of Union-Buffalo Mills, and A. A. Drake, of Bibb Manufacturing Company.

It will be the program of this committee to study the tax problems of the cotton textile industry with a view to procuring modifications in the present tax laws, and to work particularly for the modification of the undivided profits tax, as well as a more equitable treatment of the allowance for depreciation and expenditures for repairs. The industry, states Dr. Murchison, is handicapped in its expansion and modernization programs by existing tax laws.

CLINTON STARCHES
FOR ALL TEXTILE PURPOSES
Manufactured by
Clinton Company
CLINTON, IOWA
QUALITY SERVICE

Dixon's Patent Reversible and Locking in Back Saddle with New Oiling Device three Saddles in one, also Dixon's Patent Round Head Stirrup.
Send for samples
DIXON LUBRICATING SADDLE CO.
Bristol, R. I.

Mill News Items

ATLANTA, GA.—Among the dividends declared for payment on October 1st are the following:

Bibb Manufacturing Company, $1 per share, totalling $200,000.

West Point Manufacturing Company, 30 cents per share, with a total of $108,000.

BURLINGTON, N. C.—Century Hosiery Mills, with principal office at Burlington, with authorized capital of $80,000 and subscribed stock of $1,200, has received a charter from Secretary of State Thad Eure to buy and sell hosiery and knit goods. The incorporators are Jones Fuller, R. P. Reade and F. L. Fuller, Jr., all of Durham.

CHATTANOOGA, TENN.—Miller-Smith Hosiery Mills, of Chattanooga, has just completed the installation of approximately 100 new single unit, full-fashioned machines in their branch mill at Etowah, Tenn.

"This will increase the output and furnish employment of additional workers," Floyd King, superintendent of the unit, declared. The improvement represents an expenditure of more than $100,000, King said. The mill now employs about 150.

BELMONT, N. C.—Four contracting concerns submitted bids for an addition to the Knit Products Company of Belmont, plans for which were recently drawn by the W. E. Lee Engineering Company.

Firms submitting offers were the J. J. McDevitt Company, J. A. Jones Construction Company, A. H. Guion & Co., and the Southeastern Construction Company.

The structure will be two stories in height, of steel and concrete construction and will embrace approximately 20,000 square feet of floor space.

CHARLOTTE, N. C.—Work will begin at once on a two-story addition to one side of the Brevard street plant of the Hudson Hosiery Company and a one-story addition to the other side, according to plans announced by M. E. Pierson, executive of the company.

The two-story addition will be 6,000 square feet of floor space and will be used by the finishing department. It is expected that the addition will be ready for use in six weeks. The one-story addition will be 25 by 60 feet and will be used by the dyeing department. Both additions will be of brick construction to match the present structure.

Mr. Pierson explained that business has been showing a good gradual increase and that additional space is necessary to take care of the growing demand for Hudson products.

Try these Distinctive CAMPBELL DYES for RAYONS and COTTONS

JOHN CAMPBELL & CO.
75 Hudson St. New York City

Branches and Warehouses:
Concord, N. C. Burlington, N. C.
Chicago Providence Boston
Philadelphia

AMIDINE BRILLIANT RUBINE B

New! Excellent for Rayons and Cottons. Has good solubility, level dyeing properties and unusual brilliancy. Good to washing, rubbing and alkalies. Celanese effects are left white.

AMIDINE BRILLIANT VIOLET 2R

New! For Rayons and Cottons. Effective in dyeing pastel, lilac and delicate Violet shades. Has good discharge and uniform, level dyeing properties. Rates good in washing, solubility, rubbing, alkalies and acetic acid. Celanese effects are left white.

AMIDINE BRILLIANT ROSE B S

For Rayons, Cotton and Mixed Fabrics. Produces beautiful shades of Rose and Pink. Excellent solubility and level dyeing properties. Celanese effects are left white.

Write for samples and prices

Textile Operating Executives of Georgia Discuss Slashing and Weaving

(*Continued from Page 5*)

study of the fundamental purposes for sizing and means for measuring how well these purposes have been accomplished.

Through the Bureau of Standards and the A. P. I. we have just published a paper which suggests certain simple tests which can be applied in the mill to determine whether or not a warp has been properly sized.

These tests are based upon the hypothesis that in order to obtain satisfactory weaving the stress on each individual warp strand making up the warp should be fairly uniform. In order to have uniformity, it is essential that the elongation properties of those strands—stretch under load—do not vary appreciably.

The test methods described consist in short in determining the increase in length of a sufficient number of samples taken from the sized warp, after those samples have been exposed to an abrasive and pulling action, comparable to that encountered in the loom.

In this talk I have purposely tried to keep the discussion general rather than specific. However, I shall be glad to try and answer any questions.

Chairman Platt: Doctor, we would like to have you answer any questions that any of the members care to ask on this subject. Is there any discussion, or any questions, that any of you have in mind? This address has been very helpful indeed, quite complete.

Now I felt so well satisfied with Dr. Schreiber's discussion of starches that I was about to leave out our opportunity to discuss that second question. We would like to hear from Mr. Rogers.

Mr. Rogers: We have used all three. None of them in connection with corn starch. We have used them separately. We find in general that we require less softener with sago and we require less starch with the tapioca. We boil about the same length of time in each case.

Chairman Platt: How long do you boil?

Mr. Rogers: One hour after it reaches the boiling point.

Chairman Platt: That's on all three starches. A. Yes, sir.

Mr. Cobb, Canton: We have not tried the sago, but we have found good results with a mixture of tapioca and corn starch, one-third tapioca and two-thirds corn.

Question: Why did you arrive at that proportion?

Mr. Cobb: Well, it gave better results. We tried first 100 per cent tapioca, and then we tried 100 per cent corn starch, and we found that the mixture I mentioned gave better results, about one-third tapioca and two-thirds corn starch.

Question: Your work is what? A. Denims.

Question: How long do you boil? A. An hour.

Mr. Philip: Do you put anything else with the tapioca other than corn? A. No.

(Due to lack of space, a portion of the discussion is omitted at this point.)

Mr. Lawson: On a test we found that sago proved to be too much uneven for our type of work, and the tapioca didn't seem to penetrate the yarn as our regular starch does, and it gave us quite a lot of trouble in drawing in.

Chairman Platt: That brings up the question that I believe Mr. Cobb brought out, that he seemed to have to reduce the starch when he went to tapioca.

Now we will go to Question No. 3, which is as follows: "*With a circulating system, what will prevent the thinning of the size during the running of the set—with closed coils in the storage kettle and open coils in the size box?*" Before we go to that we are going to ask Mr. Barker, on whom we have put the responsibility, to have some one or himself give us about five minutes on that, to talk to us now.

Mr. Barker: Handling sized material is such a deep subject that you cannot begin to cover it in five minutes. I want to take this occasion to tell Dr. Schreiber that I appreciated his talk very much. It was highly instructive to me. I felt it was only in line with the schedule we have been following in having a specialist on slashers to talk to us, and I have a man associated with me who can talk much better on this subject than I can, and I will be glad to call on Mr. Ward to make this talk instead of myself.

Remarks By F. S. Ward

When considering the point raised by this question we must first go back to the very fundamental purpose of slashing. Outside of the necessary re-beaming the object of slashing warp yarn is to lay the fibers and give it a protective coating to help it stand the abuse it will receive in the loom. With this idea in mind the question asked is a natural one because uniformity in this protective coating is necessary to consistency in results and cloth weights.

A size circulating system comprises kettle, brass pipes, and pump. Just how these are put together and the system co-ordinated with the slasher largely determines the final results. Most mills have a circulating system of some type, but not so many have an efficient system due to lack of thought given to this important, if small, point.

First, let's get one thing firmly in our minds. Continual heating and circulation of size does break it down. We can't get away from this fact. What we can do is keep this breakdown within workable limits so we can maintain the solid deposit in the yarn within close proximity to the desired figure.

If any mill is trying to cook and store size in the same kettle, their chances for uniformity are none too bright, for proper use of a separate storage kettle is the heart of a circulating system. As a matter of fact, if we call such a kettle a "blending kettle," its use is more easily understood.

When freshly cooked size is transferred from cooking to storage kettle, it has a relatively heavy consistency. Closed coils in this kettle supply heat and prevent dilution at this point, but the heat alone starts that consistency down hill. Agitation speed in this kettle should be given careful thought since faster movement of the blades than necessary to give some stirring action gives the consistency another push down hill.

The type and speed of the circulating pump are very important. A centrifugal pump should not be used because it must turn so fast in order to deliver the required gallonage that the churning action is decidedly detrimental. The pump should not circulate a great amount of size per minute or per hour in excess of that being consumed by the slashers.

Fresh size from the loop should be delivered to the size box in small amounts frequently, and at the temperature being maintained in the box. This is important, and insulated lines and kettle are highly desirable.

Now, to consider the storage kettle as a blending point. As has been pointed out, the chances for break down of the size are great. Therefore the need for continual bolstering is apparent, and proper use of the storage kettle accomplishes this. Cooks should be in small quantities and frequent additions of fresh size made to the blending kettle. In this way the gradual change in the viscosity of the size, as it is circulated, is continually reversed.

The result of a properly designed system, properly handled, is a uniform condition in the size box, which results in a uniform size deposit, which is what all mills want.

Summing this all up, engineering knowledge and experience are perhaps as necessary in laying out an efficient power plant. With a proper system thinning of size does not become a problem.

Chairman Platt: We want to thank Mr. Ward for his contribution on this subject. It is very helpful indeed.

We would like to hear from some one on Question No. 3. Is there anyone here from Lanett?

A Member, Lanett, Ala.: I don't know that I can answer that question. I can only state our system of handling the circulating system. We fill the box in the morning, and we use only a small pipe to feed the size into the box during the period of time the slasher is running. We try as near as possible to feed the amount of size as the yarn takes it up. We find the size stays near the same level all the time. We don't find any trouble, or have not found any trouble yet.

Chairman Platt: Do you have a gravity flow to your size box?

Answer: Yes, sir, back to the storage kettle, from the size box through the circulating system back to the storage kettle.

Minimum Waste on Slasher

We will skip down to Question No. 6, unless somebody has something he would like to know under Questions Nos. 4 and 5. Question No. 6 is as follows: *"What have you found to be the best method of running a warp through a slasher so as to keep the resulting waste to a minimum?"*

That refers to sized yarn and soft yarn. Let's hear from Mr. Steel.

D. A. Steel: I believe we have a very reasonable amount of waste. When our set runs out, when the first thread comes out and breaks, then we put the set in at the creel. All the waste we have is what is still on the cylinder. I don't believe our waste ever goes to 5 pounds.

Chairman Platt: What yarns do you use? A. 24 and 24½.

Question: Mr. Steel, that is both hard and soft waste? A. Yes.

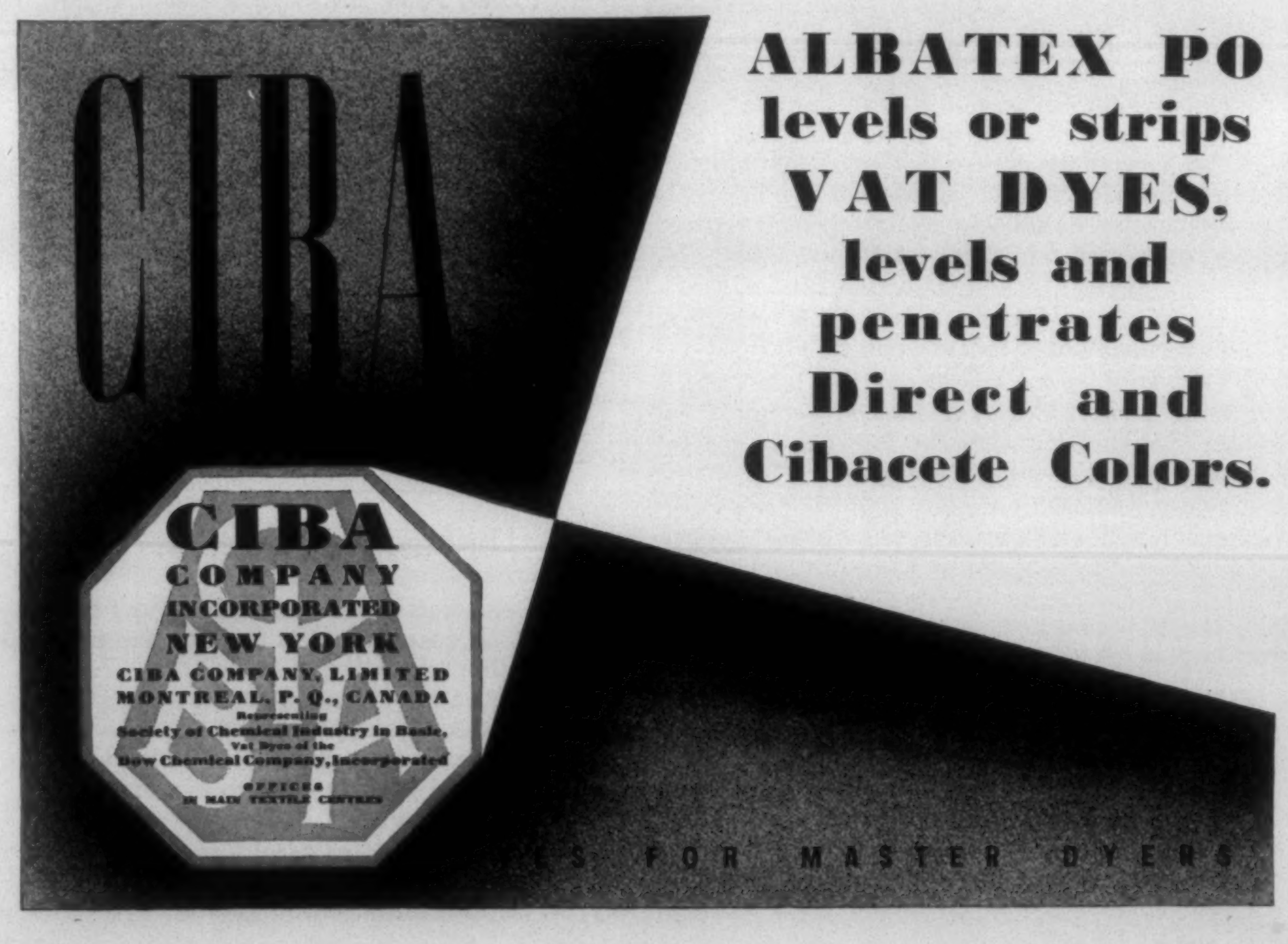
Chairman Platt: This question, according to the way I see it, is turned around. I refer to Question No. 6, which says: "What have you found to be the best method of running a warp through a slasher so as to keep the resulting waste to a minimum?"

A Member: We keep our waste pretty low. The way the sets are doffed has a lot to do with the waste during the running of the set, but we can keep our waste down when we train our men and keep them watching all the time during the time that these sets are running, and we can keep our waste down to a minimum.

Chairman Platt: Is there any other question on this? Has anybody any question or any contribution to this question?

Mr. Gibson: In a great many mills the men take the beams from the slasher, and the man in the tying-in room

(*Continued on Page 20*)



ALBATEX PO
levels or strips
VAT DYES.
levels and
penetrates
Direct and
Cibacete Colors.

CIBA
COMPANY
INCORPORATED
NEW YORK
CIBA COMPANY, LIMITED
MONTREAL, P. Q., CANADA
Representing
Society of Chemical Industry in Basle,
Vat Dyes of the
Dow Chemical Company, Incorporated
OFFICES
IN MAIN TEXTILE CENTRES

ES FOR MASTER DYERS

TEXTILE BULLETIN

Member of
Audit Bureau of Circulations and Associated Business Papers, Inc.

Published Every Thursday By

CLARK PUBLISHING COMPANY

Offices: 118 West Fourth Street, Charlotte, N. C.
Eastern Office: 503 New Industrial Trust Bldg., Providence, R. I.

David Clark	President and Managing Editor
Junius M. Smith	Vice-President and Business Manager
B. Ellis Royal	Associate Editor

SUBSCRIPTION

One year payable in advance	$2.00
Other Countries in Postal Union	4.00
Single Copies	.10

Contributions on subjects pertaining to cotton, its manufacture and distribution, are requested. Contributed articles do not necessarily reflect the opinion of the publishers. Items pertaining to new mills, extensions, etc., are solicited.

As Result of Student Loans

As the immediate result of the establishment of the Acma Student Loan Fund, Inc., as a subsidiary of the American Cotton Manufacturers' Association, nine young men are in textile departments of colleges and are being prepared for a greater measure of usefulness both for themselves and for the textile industry.

None of these young men would be in college but for the Acma Student Loan Fund, Inc.

Two of them had completed their junior years, one at Clemson College and one at Georgia Tech, but did not have sufficient funds to return for their senior year and graduation.

One was a Charlotte boy who has been working in a mill, on night shift, but wished to take a special two-year course at Clemson College.

The son of a master mechanic at Lowell, N. C., and the clerk of a New York cotton goods selling agency have been able to begin four-year textile courses at N. C. State College.

Two boys, sons of mill employees at Erlanger, N. C., and Spartanburg, S. C., have entered four-year courses at Clemson.

The son of a man who formerly operated a store at a cotton mill but is now paralyzed, has been able to enter N. C. State College.

A young man had graduated from the high school at Hickory, N. C., two years ago with the ambition to take a textile course but lacking the necessary funds, had entered a CCC camp. He heard about the loan fund and came all the way to Charlotte to make his plea for assistance. He is now at N. C. State College.

The son of an employee of a mill in Virginia secured a loan and entered N. C. State College.

One other boy would have been given assistance but when his application was received all the present funds of the Acma Student Loan Fund, Inc., had been allocated and there were none available to him. The young man is the son of a former cotton mill superintendent and a very fine man. The father died two years ago and the young man, who had completed his first year at Auburn, had to drop out and go to work. He wished to complete his textile education and it is regrettable that he could not have been given the opportunity.

Every one of the young men, who have entered college or found it possible to return, gave notes to cover the amount which they borrowed and every note was endorsed by two responsible men as surety for payment after the young men graduate.

Every man who made a donation to the Acma Student Loan Fund, Inc., will be able to deduct the amount when compiling his income tax returns for 1937.

The textile industry of the South has now seen what can be done with a small amount of money, properly handled. The total amount donated to the Acma Student Loan Fund, Inc., to date has been $2,100.

Wm. M. McLaurine, secretary and treasurer of the American Cotton Manufacturers' Association, and treasurer of the Acma Student Loan Fund, Inc., has seen how eager the young men were for a textile education and how they appreciated the opportunity afforded by the loan fund and he has, personally, derived much pleasure from being able to give assistance.

Un-American Elections

If the Democrats and Republicans of any town or any State, held an election with one party having authority not only to solicit votes but to coerce or even buy votes while the other party was prohibited from presenting its views to the voters, the injustice of such a situation would be condemned even by those upon the side which was given the advantage.

During the past ten days C. I. O. elections have been held at Lumberton, N. C., and Hickory, N. C., with the C. I. O. organizers and their paid representatives permitted to use persuasion and coercion but with the mills absolutely prohibited from presenting any argument to the workers.

The election officials were representatives of the National Labor Relations Board and definitely known to be upon the side of the C. I. O.

We believe that there are enough fair-minded people in the United States even among the ranks of organized labor, to bring about a change from present conditions.

Unfair or controlled elections are distinctly un-American and smack of conditions from which our ancestors sought relief when they set sail for America which was once called the "land of the free."

Some Good In All Men

Edward T. Garsed died at Charlotte last week.

The textile industry forgets quickly and many will ask "Who was Edward T. Garsed?"

Ned Garsed was formerly a prominent and well known figure in the textile industry. He was a member of the firm of Alexander & Garsed, when they were the Southern agents for the Crompton & Knowles Loom Works, and who, also, engaged in the second-hand machinery business. Mr. Garsed devoted most of his time to the latter business.

Ned Garsed did not bear a good reputation in business nor was he highly regarded except, possibly, by a few personal friends. Many of those to whom he sold second-hand machinery brought suit and the testimony presented did not reflect credit upon him.

His married life was anything but enviable and the records of same as set forth in his divorce proceedings shocked even the members of the Supreme Court of North Carolina, to whom the case went for final decision.

Ned Garsed died last week and when his will was probated it was found that he had provided an annuity for all of his servants including those who were employed upon his farm.

That he has left the remainder of his large estate to the little children in the Alexander Rescue Home in Charlotte and to the old people in the Masonic Home in Greensboro, N. C.

His death also disclosed the fact that he had several years ago given a fine dairy farm, and the cattle thereon, to the Alexander Rescue Home and that he had for many years sent a large check at Christmas to provide presents for the little boys and girls in that institution.

Ned Garsed did not bear a good reputation throughout the textile industry and even though he is dead there is no use in pretending that he did.

His death, however, disclosed another side of Ned Garsed and showed that his heart beat for unfortunate little children and destitute old people.

Maybe, after all, the account of Ned Garsed will be better balanced than some of those who saw in him, nothing good.

There is so much bad
in the best of us

And so much good
in the worst of us

That it ill behooves
any of us

To talk about
the rest of us.

North Carolina Style

The author of the following which we copy from the *Saturday Evening Post* must have been touring North Carolina:

> A fellow we know is so reckless that when the motorcycle police catch him, they are always in doubt whether to charge him with speeding or flying low.

Cotton Exports

As cotton exports for 1937-38 will have a considerable bearing upon the price of cotton, the following statistics should be interesting:

Exports and values for the past five seasons—

Season—	Bales	Dollars
1932-33	8,419,000	342,699,000
1933-34	7,534,000	421,406,000
1934-35	4,799,000	325,685,000
1935-36	5,973,000	383,537,000
1936-37	5,440,000	372,923,000

Shipments to countries the last three seasons—

	1934-35 Bales	1935-36 Bales	1936-37 Bales
Japan	1,524,000	1,479,000	1,550,000
England	738,000	1,410,000	1,144,000
France	373,000	681,000	655,000
Germany	342,000	765,000	650,000
Italy	474,000	380,000	398,000
Canada	225,700	248,000	307,000
Poland	210,000	262,000	174,000
Belgium	97,000	157,000	154,000
Netherlands	57,000	67,000	87,000
Sweden	85,000	84,000	87,000
China	108,000	36,000	14,000
Spain	240,000	207,000	279

MODERNIZE your existing SPINNING and ROVING Machinery by equipping it with the

IMPROVED
CASABLANCAS
LONG DRAFT SYSTEM

Recent CASABLANCAS developments:

- WEIGHTLESS PRESSURE
- WASTE-REDUCING CONDENSERS
- BELT-GUIDING ROLLS
- ADJUSTABLE TENSORS

- SINGLE PROCESS FLY-FRAMES
- TWIN-SLIVER DRAW-FRAMES

- COMPOUND DRAFT SPINNING
(The Spinning Method of "Tomorrow")

Consult us before purchasing new machinery if you intend it to be equipped with a
LONG DRAFTING SYSTEM

AMERICAN CASABLANCAS CORP.
518 Johnston Bldg. Tel. 2-0138
CHARLOTTE, N. C.

SOUTHERN DISTRIBUTORS OF
CALGON
The Only Complete Water Normalizer

Chemicals, Oils, Soaps

Charlotte Chemical Laboratories
Incorporated
CHARLOTTE, N. C.

Franklin Machine Co.
Engineers—Founders—Machinists
44 Cross Street P. O. Box 1393
Telephone Dexter 1700
PROVIDENCE, R. I.

TEXTILE PRINTING MACHINERY
PACKAGE DYEING MACHINERY
SKEIN DYEING MACHINERY
BALL WINDING MACHINES
COTTON AND SILK YARN DRESSERS
POWER SHOE LACE TIPPING MACHINES
GEORGE H. CORLISS ENGINES
HARRIS-CORLISS ENGINES

Textile Operating Executives of Georgia Discuss Slashing and Weaving

(*Continued from Page 17*)

rolls off quite a number of yards before he clamps it. If you will put on two pieces of tape, one on each side of the warp, then leave about three inches beyond that tape, you can pull that warp back to where the tie-in machine will hold the yarn, and the tape will extend down below, and you will only get a few inches of waste.

Question: How many ends do you have in those warps?

Answer: About 4,000 ends; 40 inches width.

Chairman Platt: That is a new thought to me, and sounds very good. Has anybody else anything to say?

Stuck Selvages

We will go to our last question, which is Question No. 7 and which is as follows: *"What causes stuck selvages on the slasher, and how may they be prevented?"*

Mr. Harris, Fairfax: We line up the section beams so they won't rise up and have an offset on the squeeze rolls.

Mr. Willingham, Fulton Bag Co.: Keep the yarn perfectly even. If things get out of line, you will get gum or size on the squeeze roll.

Mr. Scofield: A good many things will cause stuck selvages; different lengths on the section beam, high and low selvages, etc. The best thing to prevent them is to keep your beams in good repair and keep things even.

Chairman Platt: Are there any other points on that? Can somebody tell us another factor entering into this and how we can keep these stuck selvages down?

I did want to go back to one of the slashing questions and Mr. Walker can tell us about it. Mr. Walker, will you give us a brief description of those aluminum hoods and your experience with them? I would like for that to get before the meeting because it is something that a lot of people have not heard about, and we will appreciate it if you will tell us something about that.

Mr. Walker: I don't know that our information will be of very much value due to the fact that our hoods were only installed about the middle of July.

Mr. Philip: How many of them?

Mr. Walker: Nine. Our system was so inadequate that we had to do something and we put aluminum hoods in. At the time this contract was let, copper, of course, which is considered standard we will say for the sake of argument, was the most expensive; galvanized iron the cheapest; and aluminum approximately half way.

We experienced a little difficulty in the cleaning. We tried several things to see what would keep them the brightest. It appears that running over them with a rag with a little kerosene will keep them clean, and by polishing them with Bon-Ami the polish will last 90 days at least. We go over our size box every time a set runs out. We look rather closely for corrosions and endeavor to keep them bright. Up to now our work has been very good.

Chairman Platt: Does anybody want to ask Mr. Walker any questions about aluminum hoods? If not, this concludes our Slashing discussion. I want to thank you for your co-operation.

General Chairman Thompson: I see present here today our old friend, F. Gordon Cobb, and I am sure that we would be glad to have a few words from him at this time.

Remarks By F. Gordon Cobb

I have been observing the information brought out here with a great deal of interest, and for the information of

(*Continued on Page 23*)

Mill News Items

PIEDMONT, S. C.—A new filter plant for Piedmont Manufacturing Company, at Piedmont, near Greenville, will be finished within a few weeks, according to S. M Beattie, president. The project will cost about $50,000.

MONROE, N. C.—McColl Cotton Co., Inc., with principal office in Monroe, N. C., has been chartered by Secretary of State Thad Eure to buy, sell, manufacture and deal in cotton and all cotton by-products. The authorized capitalization is $5,000, with $300 subscribed by D. K. McColl, H. B. Gregorie and W. H. Hazelhurst, all of Monroe.

ORANGEBURG, S. C.—The Santee Cotton Mill has work going forward rapidly on a modernization program which is scheduled to be completed by the end of the year. Charles S. Henry, president, stated that approximately ten months will be required to complete this program.

New and modern machinery is being installed, which will increase the production of the local unit.

At the conclusion of this modernization program, an official states that if business conditions warrant, the Bamberg unit of the Santee Mills, located at Bamberg, may be consolidated with the unit here. The official stated, however, that plans for this change will not be announced until the work on the local unit has been completed.

Cone Mills Curtail Operating Schedule

GREENSBORO, N. C.—Notice that curtailment of operating time will be put into effect in the White Oak Cotton Mills, Proximity Cotton Mills and Proximity Print Works starting September 27th was given by the Proximity Manufacturing Company with the posting of placards by the management in the plants.

When questioned in regard to the reduced running time Herman Cone, treasurer of the Proximity Manufacturing Company, said that this has become necessary because of "a general slump in business," a decline which has reflected itself particularly in lessened demand for denims.

On the other hand, there is a better market for flannels and for that reason the curtailment order does not apply to Revolution Cotton Mills, another in the group of Cone Mills in Greensboro. For the present at least, full operating schedules will continue to prevail at Revolution, which makes flannels.

For a little more than two years full operating schedules have been in force in all four of the Cone Mills here. Under these schedules there have been two shifts each week, each working eight hours daily five days a week, a work week of 40 hours, with 80 hours as the combined weekly total of running time.

Under the curtailment program which will become effective Monday, September 27th, each of the two shifts will work four days a week, a weekly total of 32 hours each and a combined total of 64 hours.

Approximately 4,000 persons are employed in the three plants in which curtailed production will be put into effect next week.

Economy plus Efficiency

WHALEBONE

LEATHER BELTING

A high speed, general utility waterproof belt for regular drives made in all widths from first quality packer steer hides.

Every delivery of Whalebone is factory tested assuring positive drive control, perfect balance, high coefficient of friction and minimum stretch.

Today is the time to investigate the power saving features of Whalebone leather belt. Address the makers for further information.

CHARLOTTE LEATHER BELTING COMPANY
CHARLOTTE, N. C.

INDUSTRIAL LEATHERS FOR EVERY PURPOSE

WENTWORTH

Double Duty Travelers

Last Longer, Make Stronger Yarn, Run Clear, Preserve the SPINNING RING. The greatest improvement entering the spinning room since the advent of the HIGH SPEED SPINDLE.

Manufactured only by the

National Ring Traveler Co.
Providence, R. I.
31 W. First Street, Charlotte, N. C.

Reg. U. S. P. O.

A CURE
FOR
SOFT FLOORS

Established 1918

Mi-CLEANSER

For better textile mill scrubbing! Less water : no rinse : faster : greater safety : harder floors : last longer : clean easier. Full information is yours for the asking.

THE DENISON MANUFACTURING CO.
ASHEVILLE, N. C.

We check credits, assume credit losses, and advance in cash, the net value of shipments as made.

Correspondence Invited

John P. Maguire & Company
INCORPORATED
Factors

370 Fourth Avenue, New York City

Southern Representative:
TAYLOR R. DURHAM, Charlotte, N. C.

IF IT'S PAPER
Send Us Your Order

Cloth Winding Boards
Jacquard Board—Beaming Paper
Toilet Tissues
Twines—Wrapping Paper—Boxes, etc.

DILLARD PAPER CO.
GREENSBORO, N.C. GREENVILLE, S.C.

UNDERWRITERS, DISTRIBUTORS AND DEALERS
IN
SOUTHERN TEXTILE SECURITIES
Bonds—Debentures—Preferred and Common Stocks

It has been our privilege to serve the manufacturing interests of the Southeast for the past eighteen years in furthering development of the textile industry.

We solicit every opportunity to confer with textile executives and individual investors pertaining to financial programs.

R. S. DICKSON & CO.
Charlotte
New York Chicago Richmond Raleigh Columbia

Choose the Chelsea
Where You Get
The Most
For Your
Money
•

HOTEL CHELSEA

FROM $6 WITH MEALS AND BATH
$3 ROOM ONLY WITH BATH

**WHEN SALES
CHARTS HAUNT YOU—**

Come up to The Chelsea where recreation and relaxation await you. Here you will find everything to further your comfort and enjoyment—outside ocean-view rooms . . sun deck . . beautiful dining room at ocean's edge . . superb food . . varied sports . . entertainment . . and charming fellow guests.

SPECIAL
WEEKLY
RATES

ATLANTIC CITY
JOEL HILLMAN • J. CHRISTIAN MYERS • JULIAN A. HILLMAN

New Slashing System

(Cotinued from Page 11)

The size box itself has been made larger to allow more time between nips after having immersed under a large cage roll which allows the solution to flow on both sides of the sheet and consequently soak all yarns more thoroughly.

We recommend the use of yarn-covered squeeze rolls. In our early trials we found that the speed was such that blankets did not appear to have a reasonable life and the use of yarn covering, properly applied, showed savings of many dollars in the course of time. All rolls turn on anti-friction bearings.

And now we come to the drying unit. I said before that the drying capacity of the standard slasher is well known and that capacity under certain conditions limited the speed at which the machine could operate.

Therefore, in order to increase the production, drying capacity had to increase. Considerable research was made before the present design was adopted. Our aim was two-fold, namely, to improve quality at a higher productive rate. Both of these aims have been fulfilled. The drying unit in the new slashing system comprises 4-5 ft. cylinders made of heavy sheet copper—new construction throughout designed for high peripheral speeds without vibration and able to operate at higher temperatures than before. By having 4 cylinders there is an added benefit of graduated or differential drying whereby a large percentage of moisture is driven from the core of the yarn. As the yarn passes to the finishing cylinders the shell is sealed binding all the fibers together and yet producing a yarn of remarkable flexibility.

Here again we depend on scientific engineering to determine proper temperatures for each mill's particular class of goods. Proper adherences to temperatures and speed schedules will produce warp of uniform predetermined moisture content, best suited for your weave room operation. There can be no hard and fast rules. For example, some starches behave differently from others. So far conditions have been encountered where the actual limitation of speed was directly traceable to the kind of starch used.

Experience so far has shown definitely that certain starches release their moisture more quickly than others and from those encountered drying speeds have been affected by as much as 25 per cent or actually under identical mechanical and yarn conditions production had to be reduced from a possible 250 ounces per minute to 200 ounces per minute.

Sizing compounds may affect these figures. I am not a chemist and therefore will not attempt to reason why these differences. The figures are a result of two years' work, and as time goes on more information will be gathered on this particular feature.

The evacuation of vapors plays an important part in the efficient drying of any fabric. For many years a limited hood seemed sufficient. In the new system, operating at higher speeds, it is necessary to provide means of removing a larger amount of moisture-laden vapors in a given period. Again, we sought engineering aid from ventilating specialists with the result that the cylinders are now completely enclosed in a specially designed copper hood with its own individual fan.

The cylinders are positively driven, and self-releasing gears are used to insure uniform surface speeds of the yarn and cylinders. Here again, this prevents stretching the yarn to get a better hug on the cylinders.

There is no need to elaborate more on the construction of the drying unit at this time.

A moment ago I mentioned that a stretch of about 1½ per cent was about right. We have found that it is practically impossible to split a warp having less than 1 per cent and weaving suffers when the total stretch exceeds 2 per cent.

The head or delivery end of the new slasher incorporates a new development in tension control. This is accomplished by the use of a New Departure transitorq drive which replaces the conventional plate or disc frictions, with which everyone is familiar. The tension on the yarn is controlled by the pull on a dancing roll, which in turn controls the rate of delivery. This rate of delivery automatically adjusts itself so as to keep the tension on the drag roll absolutely uniform at all times while the beam is building up. At the start of each beam the transitorq automatically returns to its starting point, giving positive assurance of uniform tension throughout each beam and matched uniformity in all beams.

The cones have been eliminated in the main drive and the new drive consists of a two-speed motor operating another transitory unit to provide a speed range.

Mechanical instruments, such as clocks, registering yardages delivered at the stretch control, at the speed end of the machine, are located at the front for convenience. A tachometer is also provided to check the running speed of the machine.

A few moments more and I finish. I believe that the term "high speed" as such is misleading. The system as a whole has a higher productive capacity than the old machine. The term "speed" is too relative to be used alone in an operation of this type. Sizing warps at 15 yards per minute certainly shouldn't be called speeding, but if the old rate was six yards per minute, it becomes speedy only in relation to the old speed. For this reason I prefer not to refer to speed, but what is more important, better warps, more uniformly sized, and wound at a comparatively higher productive rate.

I have listed our objectives and have tried to explain generally our attempt to carry them out. Results so far are satisfactory. There are certain conditions where this new system will not apply. Only a check on each mill can determine this. I want to thank you again for this privilege and thank you for your attention.

Textile Operating Executives of Georgia Discuss Slashing and Weaving

(*Continued from Page 20*)

you young fellows I will state that 21 years ago we started such a work as this in the Southern Textile Association at Wrightsville Beach, N. C. That is where we borrowed the idea from the Government to start a questionnaire, and the original idea was that in starting that questionnaire system we divided it up into carding, spinning and weaving, the three major operations in the mill. We had the idea that you could take up a question on carding, and if we could get all of the overseers of carding, members of the Southern Textile Association and all the superintendents, who had been former carders, to answer that

(*Continued on Page 26*)

READY

THE NEW EDITION OF

CLARK'S DIRECTORY

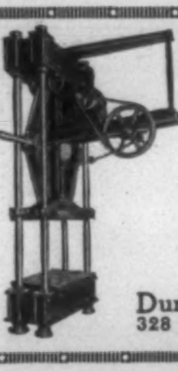
Of Southern Textile Mills

Price $2.00

Complete—Accurate—Up-to-Date

Please Send Cash With Order to Save Bookkeeping

Clark Publishing Co.
CHARLOTTE, N. C.



BALING PRESS

Motor Drive, Silent Chain, Center of Screw.
Push Button Control—Reversing Switch with limit stops up and down.
Self contained. Set anywhere you can run a wire.
Our Catalogue sent on request will tell you more about them.

Dunning & Boschert Press Co., Inc.
328 West Water St. SYRACUSE, N. Y.

As a matter of fact

Victor Circle-D Travelers have stepped right into many tough spots and smoothed out the trouble. We'd like to show you these facts—how efficient Victor Circle-D's really are—at our expense.

Just drop us a card stating styles and sizes required and we'll send you FREE samples of the modern Circle-D Traveler.

VICTOR RING TRAVELER COMPANY
20 Mathewson St. Providence, R. I.
P. O. Box 1318
1733 Inverness Ave., N. E. Atlanta, Ga. Tel.—Vernon 2330
173 W. Franklin Ave. Gastonia, N. C. Tel.—247

NORMA-HOFFMANN

BALL, ROLLER AND THRUST BEARINGS

FOR EVERY LOAD SPEED AND DUTY

WRITE FOR CATALOG

NORMA-HOFFMANN
BEARINGS CORPN., STAMFORD, CONN., U.S.A.

PRECISION

Slo-Flo Textile Lubricants

Reduces lubrication cost and insures longer life of machinery. Will not corrode bearings.

Won't spatter or "throw off" and stain goods. Easily spotted out.

Withstands heat and will not thin out. Easy to apply.

Write for catalog.

SWAN-FINCH OIL CORPORATION
30 Rockefeller Plaza, New York, N. Y.
Representatives in Principal Cities

Control of Variables in Rawstock Dyeing

(*Continued from Page 3*)

second nature to him. It is also advisable to use a measuring stick in the boil-up tanks, marking the exact volume of liquor required when the dyestuff reaches the boil, and we require all drugs to be boiled exactly five minutes. In cases where only a small quantity of a direct color is used this is not really necessary, but the adoption of one simple standard for all colors reduces the chance of error. So far as it is practical we apply this same principle to the running formula of direct and sulfur colors in medium and heavy shades.

Of course, light dyeings and those which must be after-treated call for special instructions as to temperatures and salting, but to a certain extent these shades, too, can be grouped and standardized.

Those shades which depend on aeration of the stock for their full development, such as the leuco dyeing sulfur blues, are very difficult to control. Any variation in air pressure or in the length of time it is applied gives a greener or redder cast to the shade, and where the blue is used in combination with a black, it is hard to place the responsibility for an off-shade. Certainly, a dyehouse having any quantity of this type shade should have a constant supply of air and the pressure should be checked frequently during the aeration period.

Variations in standard of dyestuffs and chemicals will creep in from time to time regardless of how reliable the sources of supply. The ideal method of avoiding trouble in this respect would be to have each lot and each barrel checked in the laboratory before using, but in the average mill the laboratory men are kept busy on color matching and necessar yroutine testing. Carload shipments of chemicals are of course checked, the analysis entered in the log, and samples retained for reference. In the dyehouse the drug weigher takes a sample of each new lot of dyestuff as it is opened, showing the lot and barrel numbers, and he uses from this lot until it is finished. In th ecase of an off-shade for which there is no apparent explanation, this sample is immediately checked against the previous lot and the laboratory standard. Since variations in standard of dyestuffs are rare, this usually serves merely as the first step in a process of elimination to determine the real cause.

The process of elimination is the real test of how well the system of control is working, for if the regular check-up of machines and methods is carried out, the watchful foreman may mentally eliminate most of the possible variables and narrow the investigation down to one or two factors, or where the human element is responsible he can pretty well judge how and where. The nature of the off-shade is often a key as to who and what was responsible for it, especially on an established formula where the colors and how they act in combination and under given conditions are known to the dyer.

When a shade variation appears and keeps recurring on an established formula, every possible means of determining the cause should be exhausted before changing the formula. Where the dyer changes his formula whenever his shade fails to check, his organization gets out of control, and in a short time he cannot depend on the accuracy of his formulae or the way in which they are being followed.

Given a well trained personnel, a good control system, standardized production methods and established formulae, a dyer should have plenty of time to work on those things we would all like to work on: revision of formulae, trying out new combinations to cut cost, etc., but the human element being what it is, ourselves included, variables do not stay controlled and where there are many shades and small batches of each to dye, he is in a dog fight, and like all overseers under present conditions, doomed to spend a goodly share of his time in the doghouse.

Textile Operating Executives of Georgia Discuss Slashing and Weaving

(*Continued on Page 23*)

one question, based on the different experiences they had had in their mills, and then separate them, the secretary could get all of those answers and compile a report showing what the majority of those men decided was best. We figured that that was about the most practical manufacturing brains that could be gotten anywhere. In other words, if the actual men who were operating the mills came to a conclusion as to what was best, then that would be the best information we could get regardless of what machinery dealers said or regardless of what any theory said.

Then the idea was that, if we got a large majority to decide on the same thing, that should be a standard and be adopted as a standard. Then that section was to report back to the next semi-annual meeting of the Southern Textile Association. Then after the Association heard all the information, if the Association concurred in the conclusions that the majority of carders, or superintendents who had been carders, decided upon, then that would be established as a standard, and the idea further than that was that we would carry that in the books as standard, to remain as standard until such time as progress or whatever changes might occur might change that. I merely want to give you that as information as to how the trouble all started, so to speak. That has been 21 years ago. Since that time you have discussed various phases in the mills.

I was very much interested some time ago at what a gentleman said to me who had been made chairman of the Spinning Division. He said "What am I going to get up as questions for my meeting?" It looks like everything has been discussed. I said "That is like the man who resigned from the Patent Office in Washington because everything had been patented." That was 40 years ago.

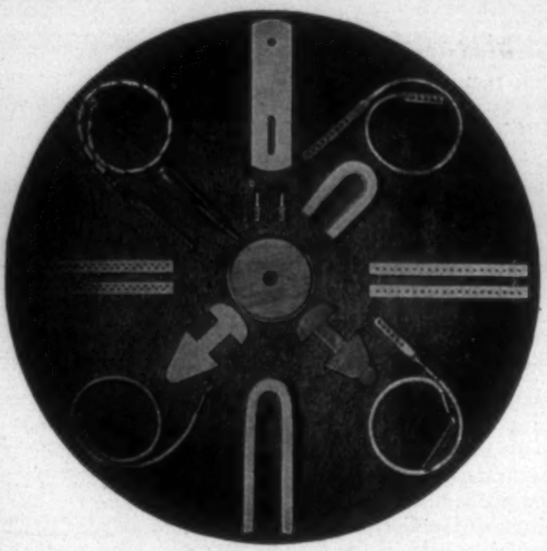
At any rate I told this young man "You have just been skimming off of the top. You have not gotten down to real fundamentals."

The point I want to bring out is that in these sectional meetings you should establish certain things as standards and set them up as standards until broken down as we progress in manufacture. The impression I have now is that when you have discussed these things in meetings, then they are more or less forgotten, and I believe they ought to go down in the record, if you concur in them, and the best results ought to be standards, not only for Textile schools but all the young fellows coming into the mills. I thank you very much.

General Chairman Thompson: Now we have got about eight questions on Weaving. It will take 40 to 50 minutes. So give Mr. Gibson all the help you can on it.

Owing to the length of the discussion on Weaving it will be continued next week.

Rice Dobby Chain Co.



Millbury, Massachusetts

hart PRODUCTS
BASED ON RESEARCH

One Barrel of Caro-Gant Replaces Three Barrels of Sizing Compound

Composition—Caro-Gant is a pure, one-piece Warp Dressing with all objectionable features eliminated. Guaranteed 99.6% active ingredients; contains no water, metallic chlorides or other salts.

Effectiveness—Caro-Gant in the size-box sets the standard for clean slashers and looms, quality cloth, and high weave-room production.

Economy—Being almost 100% pure, it goes further—one (1) pound of Caro-Gant will replace 2 to 4 pounds of other sizing compounds, at a considerable saving in slashing-costs.

Other Special Features—Produces a smooth, strong and flexible yarn. Retains the viscosity of the starch-paste upon standing over night or even over the week-end; mixes readily and uniformly with starch-paste; and is quickly and completely removed in de-sizing.

Write for a demonstration, which puts you under no obligations.

Reprints on "Notes on Cotton-Warp Sizing" gladly sent gratis upon request.

HART PRODUCTS CORP.
1440 BROADWAY NEW YORK, N.Y.

Demonstrators:

E. I. Birnbaum
384 Riverway
Boston, Mass.

Chas. C. Clark
Box 274
Spartanburg, S. C.

Talley W. Piper
Box 534
Fairfax, Ala.

WANTED—Weave Room Overseer. Must have Flannel and Dobby experience. Address "Flan-Dob," care Textile Bulletin.

PERMANENT POSITION with future wanted by young college trained man with seven years' experience in textile shop and electrical maintenance. Best references from past and present employer. Address "Trained," care Textile Bulletin.

WELL EXPERIENCED Master Mechanic wants position. Can furnish the very best of references. Strictly sober. In good health. Willing to work and build up a job. North or South Carolina preferred. Address "C. L. H.," care Textile Bulletin.

Less Textile Materials Imported By Germany

Since the introduction of the official control of textile fibers in Germany the importation of textile raw materials has fallen considerably. In the first six months of 1934, 81 per cent of the textile raw materials worked up by the German textile industry was imported; in the first quarter of 1937 the proportion had fallen to 60 per cent; the value of these imports has fallen in these three years from 70 per cent to 52 per cent; it is now under 50 per cent, and, according to a statement by an official of the Ministry of Trade and Industry (Reichswirtschaftsministerium), Ministerialrat Quassowski, the proportion is to be further reduced.

Three years ago cotton accounted for some 40 per cent of the German consumption of textile fibres and yarns; the proportion is now 23½ per cent. Wool consumption has fallen in the three years from 12 to 8.3 per cent, and jute from 12.3 to 10.6 per cent. Wool waste (shoddy, etc.) and cotton waste consumption, however, has increased from 4.8 to 8.1 per cent, rayon from 4.2 to 7.2 per cent, and staple fibre from 0.7 to 11.2 per cent.

$25,000 Blaze Hits Stock Of Burlap Firm

Charlotte, N. C.—Fire recently destroyed the second story of the Charlotte Burlap Bag Company. Louis A. Gottlieb, owner of the business, said that a conservative estimate of the damage done to stock alone would exceed $25,000.

The fire started about 1:30 p. m. in the stock room on the second floor of the building. Firemen did not immediately determine the cause.

The bag company, which has been in operation in Charlotte since 1934, manufactures burlap bags and bales for cotton, corn, oats, fertilizers, and other such products. It also buys and sells old bagging.

Index To Advertisers

Where a — appears opposite a name it indicates that the advertisement does not appear in this issue.

	Page
—A—	
Abbott Machine Co.	—
Acme Steel Co.	—
Akron Belting Co.	—
Allis-Chalmers Mfg. Co.	—
American Blower Corp.	—
American Casablancas Corp.	20
American Cyanamid & Chemical Corp.	7
American Moistening Co.	—
American Paper Tube Co.	—
Armstrong Cork Products Co.	—
Arnold, Hoffman & Co., Inc.	—
Ashworth Bros.	—
—B—	
Bahnson Co.	—
Baily, Joshua L. & Co.	28
Bancroft Belting Co.	—
Barber-Colman Co.	—
Bismark Hotel	—
Bond Co., Chas.	—
Borne, Scrymser Co.	—
Brookmire, Inc.	—
Brown, David Co.	—
—C—	
Campbell, John & Co.	15
Carolina Refractories Co.	—
Charlotte Chemical Laboratories, Inc.	20
Charlotte Leather Belting Co.	21
Chelsea Hotel	22
Ciba Co., Inc.	17
Clark Publishing Co.	—
Clinton Co.	14
Crespi, Baker & Co.	—
Crompton & Knowles Loom Works	—
Curran & Barry	28
—D—	
Dary Ring Traveler Co.	—
Daughtry Sheet Metal Co.	27
Deering, Milliken & Co., Inc.	28
Denison Mfg. Co.	21
DeWitt Hotels	—
Dickson & Co., R. S.	22
Dillard Paper Co.	22
Dixon Lubricating Saddle Co.	14
Drake Corp.	—
Draper Corporation	—
Dronsfield Bros.	—
Dunkel & Co., Paul R.	—
Dunning & Boschert Press Co.	24
DuPont de Nemours, E. I. & Co.	—
—E—	
Eaton, Paul B.	27
Emmons Loom Harness Co.	—
Engineering Sales Co.	—
Enka, American	—
—F—	
Foster Machine Co.	—
Benjamin Franklin Hotel	29
Franklin Machine Co.	20
Franklin Process Co.	—
—G—	
Garland Mfg. Co.	—
General Coal Co.	—
General Dyestuff Corp.	—
General Electric Co.	12 and 13
General Electric Vapor Lamp Co.	2
Goodyear Tire & Rubber Co.	—
Grasselli Chemical Co., The	—
Greenville Belting Co.	—
Gulf Refining Co.	—
—H—	
H & B American Machine Co.	—
Hart Products Corp.	25
Hercules Powder Co.	—
Hermas Machine Co.	29
Holbrook Rawhide Co.	—
Houghton, E. F. & Co.	—
Houghton Wool Co.	28
Howard Bros. Mfg. Co.	—
Hyatt Bearings Div. of G. M. C.	—
—J—	
Jackson Lumber Co.	—
Jacobs, E. H. Mfg. Co., Inc.	—
Johnson, Chas. B.	—
Graton & Knight Co.	—
—K—	
Keever Starch Co.	31
—L—	
Laurel Soap Mfg. Co., Inc.	11
Luttrell & Co., C. E.	27
—M—	
McLeod, Inc., Wm.	—
Maguire, John P. & Co.	22
Merrow Machine Co., The	—
—N—	
National Oil Products Co.	—
National Ring Traveler Co.	21
Neisler Mills Co., Inc.	—
N. Y. & N. J. Lubricant Co.	—
Noone, Wm. R. & Co.	—
Norlander Machine Co.	—
Norma-Hoffmann Bearings Corp.	24
—O—	
Old Dominion Box Co., Inc.	—
Onyx Oil & Chemical Co.	—
—P—	
Parks-Cramer Co.	—
Perkins, B. F. & Son, Inc.	—
Powers Regulator Co.	—
Provident Life & Accident Ins. Co.	Front Cover
—R—	
Raymond Service, Chas.	27
Rhoads, J. E. & Sons	—
R. I. Tool Co.	—
Rice Dobby Chain Co.	25
Roy, B. S. & Son Co.	—
—S—	
Saco-Lowell Shops	—
Seydel Chemical Co.	—
Seydel-Woolley & Co.	—
Sherwin-Williams Co.	—
Signode Steel Strapping Co.	—
Sipp-Eastwood Corp.	—
Socony Vacuum Oil Co.	—
Soluol Corp.	—
Solvay Sales Corp.	—
Sonoco Products	—
Southern Ry.	—
Southern Spindle & Flyer Co.	—
Staley Sales Corp.	—
Steel Heddle Mfg. Co.	—
Stein, Hall & Co.	9
Sterling Ring Traveler Co.	—
Stevens, J. P. & Co., Inc.	28
Swan-Finch Oil Co.	24
—T—	
Terrell Machine Co.	—
Texas Co., The	—
Textile Apron Co.	—
Textile Shop, The	—
—U—	
U. S. Bobbin & Shuttle Co.	—
U. S. Gutta Percha Paint Co.	—
U. S. Ring Traveler Co.	—
Universal Winding Co.	—
—V—	
Veeder-Root, Inc.	Back Cover
Victor Ring Traveler Co.	24
Viscose Co.	—
Vogel, Joseph A. Co.	35
—W—	
WAK, Inc.	—
Wallerstein Corp.	23
Wellington, Sears Co.	28
Whitin Machine Works	—
Whitinsville Spinning Ring Co.	35
Williams, I. B. & Sons	—
Windle & Co., J. H.	27
Wolf, Jacques & Co.	—
Wytheville Woolen Mills	—

Classified Department

SALESMAN

Old established firm has exceptional opportunity for experienced electrical motor and pump salesman now calling on Southern textile mills. Only men with successful sales record need apply. In reply give age, outline of past experience, salary expected, and references. Address "Motors," care Textile Bulletin.

WANTED—SCRAP IRON

In carload lots, F.O.B. cars, or our crew will load. Can use all grades, including heavy engines and boilers; pay spot cash. Also buy non-ferrous metals. Please get our offer before selling.

C. E. Luttrell & Co.
309 River St.
Box 1161 Greenville, S. C.
Telephones 672-673

Travel anywhere..any day on the SOUTHERN for 1½¢ PER MILE

A fare for every purse...!

1½¢ PER MILE **One Way Coach Tickets . . .**
On Sale Daily

2¢ PER MILE **Round Trip Tickets . . . . .**
. . . for each mile traveled . . . return limit 15 days
Good in Sleeping and Parlor Cars on payment of proper charges for space occupied

2½¢ PER MILE **Round Trip Tickets . . . . .**
. . . for each mile traveled . . . return limit 6 months
Good in Sleeping and Parlor Cars on payment of proper charges for space occupied

3¢ PER MILE **One Way Tickets . . . . . .**
Good in Sleeping and Parlor Cars on payment of proper charges for space occupied

NO SURCHARGE!

HIGH CLASS TRAINS

Latest Pullman Equipment, including Compartment, Drawing Room and Open Section Sleeping Cars

MODERN COACHES..CONVENIENT SCHEDULES

Insure Satisfactory Service on the Southern Railway System

Be Comfortable in the Safety of Train Travel

FRANK L. JENKINS
Passenger Traffic Manager
Washington, D. C.

SOUTHERN RAILWAY SYSTEM

TEXTILE MACHINERY FOR SALE

22—Whitin Tape Drive Spinning Frames, 3" ga., 256 spindles each, 39" width.
48—Whitin Band Drive Ring Spinning Frames, 3¼" ga., 2" ring, 204 spindles each.
20—F. & J. Dry Tape Drive Ring Twisters, 5½" ga., 4½" ring, 132 spindles each.
20—Collins Wet Tape Drive Ring Twisters, 5" ga., 3½" ring, 160 spindles each.
10—F. & J. Wet Tape Drive Ring Twisters, 3¼" ga., 2¼" ring, 200 spindles each.
1—Vertical Set 7 Dry Cans, 144" x 23" Cans.
15—AMCO Automatic Humidifier Controls.

Complete List of Supplies and Accessories
Write or Wire for Detailed Inventory

J. H. WINDLE & COMPANY
TEXTILE MACHINERY AND EQUIPMENT

Office and Warehouse
231 South Main St.
Telephone Gaspee 6464
Providence, R. I.

Opportunity for Belting Salesman

Old reliable manufacturer has opening for experienced Southern salesman. Must be dependable, hard worker. Splendid chance for the right man. Give full record of experience and qualifications in first letter.

Address "Belting,"
Care Textile Bulletin

POSITION WANTED — Superintendent, practical in whole mill; technical educanine, nine years on combed broadcloth, plain and fancy; also experienced on carded broadcloth, print cloth and sheetings. Address "Superintendent," care Textile Bulletin.

BARRETT
Specification
ROOFING
DAUGHTRY
SHEET METAL CO.
1109 E. Trade Charlotte

WIRE OR WRITE US for competent Southern and Northern Textile Mill Men. Over 40 years in business. Charles P. Raymond Service, Inc., 294 Washington Srteet, Boston, Mass.

A-1 SHIPPER AVAILABLE—Thoroughly familiar with all express and freight classifications, rates and routing. Capable of taking entire charge of all shipping problems. Age 29, married, clean, sober habits and excellent references are available. Address "Shipper," care Textile Bulletin.

Paul B. Eaton
PATENT LAWYER
1408 Johnston Bldg., Charlotte, N. C.
514 Munsey Bldg., Washington, D. C.
Former Member Examining Corps
U. S. Patent Office

WANTED—Overseer Winding. Experienced in high class white carded yarns, single and ply, on Foster and Universal winders. Address "C. Y. M.," care Textile Bulletin.

Overseers' Banquet

Reidsville, N. C.—The "Regular Fellows" Club, composed of overseers of the Reidsville Rayon Mills, local division of the Burlington Mills Corporation, attended the third of a series of banquets at the Alamance Hotel in Burlington recently.

Speaker of the evening was J. Ruegg, superintendent of the Reidsville Mill. He discussed mill problems. Short talks were made by S. O. Beard, I. E. Kerley and J. D. Ezelle, club members.

SELLING AGENTS for
SOUTHERN COTTON GOODS

Deering Milliken & Co.
Incorporated
79-83 Leonard St.
New York
330 West Adams Street, Chicago

CURRAN & BARRY
320 Broadway
New York, N. Y.

Wellington, Sears Co.
93 Franklin St., Boston
65 Worth St., New York
Philadelphia
Chicago
Atlanta
New Orleans
San Francisco

Domestic Export
MERCHANDISING
Joshua L. Baily & Co.
10-12 Thomas St. New York

HOUGHTON STANDARD TOPS
for Rayon and Wool Blends
HOUGHTON WOOL COMPANY
235 Summer St. Boston
Write or Phone Our Southern Representative
JAMES E. TAYLOR, Phone 3-3692, Charlotte, N. C.

Cotton Goods Markets

New York.—Sales of cotton cloths improved materially last week and total volume of gray cloth sold was closest to weekly mill output since early July.

Print cloths moved in increasing volume at better prices. Sales of sheetings and osnaburgs were moderate to good. Fine yarn goods were quiet, with prices irregular.

A sounder demand arose in the combed lawn section. There was covering here on the two chief constructions, namely, 40-inch 76x72s that sold at 6¾c and 88x80s that brought 7¾c. In addition to the business put through on these styles a moderate sales volume was consummated on 136x60s and 128x68s combed broadcloth. The price paid in both instances on broadcloth was 10¼c.

There was also a substantial volume of sales on combed slub yarn broadcloth with 128x64s sold at 11¼c. There had been bids at under the level which were uniformly rejected. A number would not consider anything less than 11½c for the colth. A few sales of combed dimities were made on the basis of 6¾c for the 96x68s. Some specialty combed yarn cloth business was also put through.

Business in finished goods was uneven. Better sales of percales and prints were reported and more interest was shown in chambrays. Denims and other colored goods, however, were slow and prices weak. Wide sheetings, sheets and pillow cases were quiet with further easing of values on some branded lines.

Mill stocks of colored goods were not regarded as unwieldy by existing accumulations in converting and distributing channels confined new business to necessitous or fill-in buying.

Rayon goods were rather slow with mills shipping out good amounts against old orders, but price irregularity and needed curtailment tended to discourage important buying.

Print cloths, 27-in., 64x60s	3⅞
Print cloths, 28-in., 64x60s	4⅛
Grays goods, 38½-in., 64x60s	5¼
Gray goods, 39-in., 80x80s	7¼
Tickings, 8-ounce	16
Denims	15
Brown sheetings, standard	10
Brown sheetings, 4-yard, 56x60s	6¾
Brown sheetings, 3-yard	7¼
Staple ginghams	11¼

J. P. STEVENS & CO. Inc.
Selling Agents
40-46 Leonard St., New York

Cotton Yarn Markets

Philadelphia, Pa.—In spite of a comparatively dull week, there were developments that were encouraging to spinners, with inquiries more noticeable and more apparent acceptance of the opinion that prices were down about to rock bottom. While there were some concessions by spinners, usually they were very slight or for small immediate delivery.

With the price down about 35 per cent below the year's peak, indications are that September will see the greatest volume trading since March. Dealers report that during the past week delivery specifications also have improved, especially in combed peeler yarn and the better grade carded numbers.

In two-ply combed yarn the buying is at the best level since April and delivery requisitions are about 25 per cent ahead of the weekly average during midsummer. Both as to sales and shipments, ply combed yarns are now at a level which maintains the improvements first reported about eight weeks ago. Sales do not come near the levels of September last year though.

While buying has been largely for covering immediate needs, there are many who feel that cotton values already have approached within a half-cent of their ultimate low of the 1937-1938 crop year, and who feel that probably only a few weeks hence there will be resumption of demand for materials and merchandise on a scale which industry will not be able immediately to accommodate.

Customers asking for new contracts to replace the existing high priced ones are being informed that they will be accommodated only on the basis of weekly shipments, of which 50 per cent must apply on existing undelivered portions of old contracts, at the original contract prices. The other 50 per cent to comprise yarns priced currently.

Southern Single Skeins

8s	20½
10s	20½
12s	21
14s	21½
20s	23
26s	26
30s	28
36s	33
40s	34

Southern Single Warps

10s	20½
12s	21
14s	21½
16s	22
20s	23
26s	26
30s	28
40s	34

Southern Two-Ply Chain Warps

8s	22
10s	22
12s	22½
16s	24
20s	24½
24s	27
26s	28
30s	28½
36s	33½
40s	35

Southern Two-Ply Skeins

8s	22
10s	22
12s	22½
14s	23½
16s	24
20s	24½
24s	27
26s	28
30s	28½
40s	35

Two-Ply Plush Grade

12s	23
12s	23½
16s	24½
20s	25½
30s	30½

Duck Yarns, 3, 4 and 5-Ply

8s	21
10s	22½
12s	23
14s	24
16s	24½
20s	25

Carpet Yarns

Tinged 5-lb., 8s, 3 and 4-ply	19½
Colored stripe, 8s, 3 and 4-ply	22
White carpets, 8s, 3 and 4-ply	21½

Part Waste Insulated Yarns

8s, 1-ply	17
8s, 2, 3 and 4-ply	18
10s, 2, 3 and 4-ply	19
12s, 2-ply	20
16s, 2-ply	21
20s, 2-ply	22½
30s, 2-ply	27

Southern Frame Cones

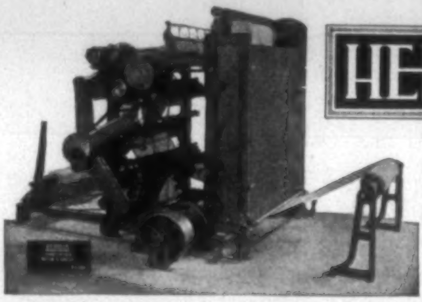
8s	20½
10s	20½
12s	21
14s	21½
16s	22
20s	23
22s	24
24s	25
26s	26
28s	27
30s	29

Make the Clothroom Contribute A Saving

Mills have made savings of 50% to 80% of clothroom costs by installing the Hermas automatic brush and shear in place of the wasteful hand method.

This machine brushes and shears both sides of the goods at 50 to 90 yards a minute. Dust and dirt are removed by powerful suction—shears within one foot of seams and removes strings and nibs.

Back up your reputation with



HERMAS

equipment —it pays for itself in a few months

HERMAS MACHINE COMPANY

Cloth Room Machinery

Hawthorne, N. J.

Southern Representative:

Carolina Specialty Co., Charlotte, N. C.

In Philadelphia on Business?

Business travelers appreciate conveniences and comfort and service. That's why you'll like the Benjamin Franklin when you're in Philadelphia on business. Big, comfortable rooms; marvelous food; smiling, interested service. And economical rates...as low as $3.50 a day.

THE BENJAMIN FRANKLIN

SAMUEL EARLEY, *Managing Director*

PHILADELPHIA

Visiting The Mills

By Mrs. Ethel Thomas Dabbs (Aunt Becky)

SLATER, S. C.

S. Slater & Sons, Inc.

Samuel Slater built the first cotton spinning machinery in America—two spinning frames, totalling 72 spindles each, constructed on the Arkwright plan, and three cards. These were built in 1790 and operated in an old clothier shop in Pawtucket, R. I. Power was obtained from a mill water wheel in Blackstone River—the place of operation being near Pawtucket Bridge.

Thus began one of the greatest industries in America, and Samuel Slater goes down in history as one of the greatest benefactors known to man. This first textile undertaking—two spinning frames and three cards, ran two years and *glutted the market*! Every effort was made to have the yarn converted into cloth by weavers who had old-fashioned looms in their homes, but there was too much yarn produced and the machinery was shut down for several months.

This mill required *nine* operatives, most of them very young people. Mr. Slater was superintendent, and his wages were $1.50 per day, and he often worked 16 hours a day! The "Old Slater Mill"—a building erected in 1793 to house the original machinery, still stands in Pawtucket, and is preserved for a textile museum. This building was several times enlarged as markets expanded, but the original part is still there.

A second mill was organized, built and started up in 1801; a third mill in 1807; a fourth mill was built and started up in Oxford, Mass., in 1811. In 1817 this mill and property consisted of 2,000 spindles, a woolen mill, a grist and saw mill, 16 houses and 700 acres of land.

Samuel Slater laid the foundation of the well known Amoskeag Manufacturing Company, and the beginning of the great manufacturing city of Manchester, N. H.

Others, seeing the success of the Slater enterprises, became active in textiles, and history tells us that in 1815 there were 99 cotton mills in R. I., 57 in Mass., and 14 in Conn., with the average spindleage 500 per mill. The "Old Slater" at Pawtucket at this time was the largest of them all with 5,107 spindles.

President Monroe visited the Slater Mill when the old spinning frames had been running 27 years. President Jackson also called on this great man whom he named "The father of American Manufacturers." President Jackson was profoundly moved and said to Mr. Slater: "You set all these thousands of spindles to work, which I have been delighted in viewing, and you have made so many happy by lucrative employment."

"Yes, sir," replied Mr. Slater. "I suppose that I gave out the Psalm, and they have been singing the tune ever since." Mr. Slater kept building mills and enlarging them, and his sons and grandsons kept the work up after he passed on.

Probably the latest Slater Mill is at Slater, S. C., one of the nicest rayon mills in the South. We are indebted to Treasurer Baxter and Assistant Treasurer J. A. Lybrand, Jr., for the data in this article. The superintendent and overseers are all young men and full o' pep.

J. M. Bailey is superintendent; Messrs. F. K. Keaster, J. S. George, Thos. Maw, —. —. Powers, —. —. Puckett and —.—. Dodson are overseers of weaving; W. A. Layton, general overseer preparation; J. C. Clark, cloth room; W. G. Hill, slasher foreman; H. B. Taylor, master mechanic; I. W. Garrett, designer; W. B. Croxton, technician; R. M. Carithers and F. G. Powers, overseers winding; R. J. Sizemore, warp man; M. C. Hembree, loom fixer, and others, belong to our big Textile Bulletin family.

SOUTH GREENWOOD, S. C.

Mathews Cotton Mill

Mathews Mill village is fast becoming one of the nicest textile communities in the South. Beautiful modern homes are being built and older ones remodeled, re-covered and repainted, to make a perfect whole.

A new office is among the improvements under way or contemplated, and in the near future South Greenwood will be one big grand surprise to those who have not seen that section in several months.

General Superintendent Hart and Superintendent H. E. Runge are busy people these days, but as unfailing in courtesy as ever, and it is always a pleasure to call on them.

This is the first mill we have ever seen that doesn't have the floors scrubbed! Dirty? Oh, no—they are varnished and cared for like hardwood floors at home, and dust, dirt and lint never stick. A soft mop wipes it clean. For the sake of manufacturers of scrubbing powders, let's hope that too many mills won't follow suit!

E. D. Miles, dependable overseer of carding, has been here a long time and has a fine group of operatives. W. R. Mitchell and L. T. McIntyre are second hands; Garvin Miles and R. L. Edmonds, section men; B. R. Knight, Jr., and J. L. Putnam, card grinders.

J. F. Snipes is overseer spinning and has been here quite awhile; M. W. Evans and D. E. Cooper are progressive second hands; H. H. Giles, section man. The order and cleanliness in both carding and spinning is a fine demonstration of co-operation.

Work was running so nearly perfect in the weave room that we thought of applying to the overseer for a set of looms! It has been 27 years since the writer said "goodbye" to looms and "howdy-do" to the typewriter and printer's ink. But we haven' forgotten how to weave, and there's a peculiar music in the hum of looms and the swish-swish of harness that never fails to appeal to a weaver.

Some recent changes have been made in the weave room. The former overseer, W. D. King, has been transferred to Ninety-Six to fill the same position left vacant when Ed Seigler went with the Springs Mills, Lancaster.

E. T. Lollis, who was overseer of weaving several years at Ware Shoals, is now in charge of weaving at Martha Mills and is making friends; Robbie Hilley, R. D. Love, J. R. Reynolds and A. W. Brown are second hands; R. L. Sutherland, Earl E. Parkham, H. E. Holsenback, J. D. Compton and T. J. Erwin are live-wire loom fixers. A. Holsenback is smash hand.

Was delighted to find my good friends, Mr. and Mrs. E. F. Stevens, formerly of Langley, S. C., at the head of things in the cloth room. He is overseer and she does the checking and book work. That couple truly makes a winning team. B. B. Satcher is the genial second hand in cloth room.

Aunt Becky was a delighted dinner guest in the pretty and hospitable home of Mr. and Mrs. Stevens. They have a police dog that is unusually intelligent, does many tricks and plays games—just anything Mr. Stevens suggests.

ABBEVILLE, S. C.

Abbeville Cotton Mills

Abbeville Cotton Mill is the best asset of the pretty little town of Abbeville. The mill grounds are very attractively planned and evergreen hedges and shrubbery make a pleasing picture the year round. There are plenty of grand old shade trees, nice comfortable homes kept in good repair and well painted. President J. S. Barnwell is one of the most pleasant and courteous of officials and a favorite with all who know him. F. S. Nicholas is agent and W. M. Langley has been superintendent for a long time.

There is a movement on foot here to sell the homes to operatives, but we couldn't see the proper parties to get authentic information concerning details.

Among those who are visited by The Textile Bulletin each week, besides officials and the superintendent, are Roger Mullinax, carder; Watson Norrell and C. E. Wilson, section men in carding.

John Carter, spinner; A. L. Powell, second hand; Grady Walker, section man, and Robert Carter, overhauler.

G. V. Jones, weaver; Coy Argo, assistant in silk department; B. O. Kelley, second hand; Oliver Creswell, slasher foreman; C. A. Argo and Vivian Creswell, loom fixers.

T. J. Kelley, overseer cloth room; H. W. Powell, shipping; C. L. Green, supplies; H. R. Brazil, master mechanic, and Wilbur M. Langley, outside overseer.

*For Uniformity
Depend On-*

VICTOR
MILL STARCH
"The Weavers' Friend"

BOILS THIN • HAS MORE PENETRATION • CARRIES WEIGHT INTO THE FABRIC

Distributed by
DANIEL H. WALLACE, Southern Agent, Greenville, S. C.
C. B. Iler, Greenville, S. C. F. M. Wallace, Birmingham, Ala.
L. J. Castile, Charlotte, N. C.

THE KEEVER STARCH CO. COLUMBUS, OHIO

Southern Sources of Supply

For Equipment, Parts, Material, Service

Following are the addresses of Southern plants, warehouses, offices, and representatives of manufacturers of textile equipment and supplies who advertise regularly in TEXTILE BULLETIN. We realize that operating executives are frequently in urgent need of information service, equipment, parts and materials, and believe this guide will prove of real value to our subscribers.

ABBOTT MACHINE CO., Wilton, N. H. Sou. Agt., L. S. Ligon, Greenville, S. C.

ACME STEEL CO., THE, 2840 Archer Ave., Chicago, Ill. Sou. Sales Offices: Georgia—Atlanta, Acme Steel Co. of Ga., Inc., 603 Stewart Ave.; F. H. Webb, Mgr., 1281 Oxford Rd., N.E.; W. H. Duane, 1196 Virginia Ave., N.E. North Carolina—Charlotte, F. G. German, 1617 Beverly Drive. South Carolina—Greenville, G. R. Easley, 107 Manly St. Tennessee—Signal Mountain, W. G. Polley, 802 James Blvd. Florida—Orlando, R. N. Sillars, 605 E. Gore Ave.

AKRON BELTING CO., Akron, O. Sou. Branches, 914 Johnston Bldg., Charlotte, N. C.; 905 Woodside Bldg., Greenville, S. C.; 20 Adams Ave., Memphis, Tenn.

ALLIS-CHALMERS MFG. CO., Milwaukee, Wis. Sou. Sales Offices: Atlanta, Ga., Healey Bldg., Berrien Moore, Mgr.; Baltimore, Md., Lexington Bldg., A. T. Jacobson, Mgr.; Birmingham, Ala., Webb Crawford Bldg., John J. Greagan, Mgr.; Charlotte, N. C., Johnston Bldg., William Parker, Mgr.; Chattanooga, Tenn., Tennessee Electric Power Bldg., D. S. Kerr, Mgr.; Cincinnati, O., First National Bank Bldg., W. G. May, Mgr.; Dallas, Tex., Santa Fe Bldg., E. W. Burbank, Mgr.; Houston, Tex., Shell Bldg., K. P. Ribble, Mgr.; New Orleans, La., Canal Bank Bldg., F. W. Stevens, Mgr.; Richmond, Va., Electric Bldg., C. L. Crosby, Mgr.; St. Louis, Mo., Railway Exchange Bldg., C. L. Orth, Mgr.; San Antonio, Tex., Frost National Bank Bldg., Earl R. Hury, Mgr.; Tampa, Fla., 415 Hampton St., H. C. Flanagan, Mgr.; Tulsa, Okla., 18 North Guthrie St., D. M. McCargar, Mgr.; Washington, D. C., Southern Bldg., H. C. Hood, Mgr.

AMERICAN BLOWER CORP., Detroit, Mich. Sou. Offices: Court Square Bldg., Baltimore, Md.; 1211 Commercial Bank Bldg., Charlotte, N. C.; Rooms 716-19, 101 Marietta St. Bldg., Atlanta, Ga.; 846 Baronne St., New Orleans, La.; 1005-6 American Bldg., Cincinnati, Ohio; 619 Mercantile Bldg., Dallas, Tex.; 201 Petroleum Bldg., 1314 Texas Ave., Houston, Tex.; 310 Mutual Bldg., Kansas City, Mo.; 620 S. 5th St., Architects & Bldrs. Exhibit Bldg., Louisville, Ky.; 1433 Oliver Bldg., Pittsburgh, Pa.; 7 North 6th St., Richmond, Va.

AMERICAN CASABLANCAS CORP., Johnston Bldg., Charlotte, N. C. Warehouse, 1000 W. Morehead St. F. Casablancas and J. Casablancas, Executives; J. Rabasa, Technical Expert.

AMERICAN CYANAMID & CHEMICAL CORP., 30 Rockefeller Plaza, New York City. Sou. Office and Warehouse, 822 W. Morehead St., Charlotte, N. C., Paul Haddock, Sou. Mgr.

AMERICAN ENKA CORP., 271 Church St., New York City. Sou. Rep., R. J. Mebane, Asheville, N. C.

AMERICAN MOISTENING CO., Providence, R. I. Southern plant, Charlotte, N. C.

AMERICAN PAPER TUBE CO., Woonsocket, R. I. Sou. Rep., Ernest F. Culbreath, P. O. Box 11, Charlotte, N. C.

ARMSTRONG CORK PRODUCTS CO. (Textile Division), Lancaster, Pa. Sou. Office, 33 Norwood Place, Greenville, S. C. T. L. Hill.

ARNOLD, HOFFMAN & CO., Inc., Providence, R. I. Frank W. Johnson, Sou. Mgr., Box 1268, Charlotte, N. C. Sou. Reps., Robert E Buck, Box 904, Greenville, S .C.; Harold T. Buck, 1615 12th St., Columbus, Ga : W Chester Cobb, Hotel Russell Erskine, Huntsville, Ala.; D. Floyd Burns, Jr., Box 198, Durham, N. C.

ASHWORTH BROS., Inc., Charlotte, N .C. Sou. Offices, 44-A Norwood Place, Greenville, S. C.; 215 Central Ave., S.W., Atlanta, Ga.; Texas Rep., Textile Supply Co., Dallas, Tex.

ATLANTA HARNESS & REED MFG. CO., Atlanta, Ga. G. P. Carmichael, Atlanta Office; Alabama, Georgia and Mississippi Rep., Barney R. Cole, Atlanta Office; North Carolina and South Carolina Rep. Dave Jones, Greenville, S. C.

BAHNSON CO., THE, Winston-Salem, N .C. North and South Carolina Rep., S. C. Stimson, Winston-Salem, N. C Sou Rep., I. L. Brown, 886 Drewery St., N.E., Atlanta, Ga. Northern Rep., F. S. Frambach, 703 Embree Crescent, Westfield, N. J Western Rep., D. D. Smith, 906 W. Lovell St., Kalamazoo, Mich.

BANCROFT BELTING CO., Boston, Mass. Sou. Rep., Ernest F. Culbreth, P. O. Box 11, Charlotte, N. C.; Herbert Booth, Claridge Manor Apt., Birmingham, Ala.

BARBER-COLMAN CO., Rockford, Ill. Sou. Office, 31 W. McBee Ave., Greenville, S. C., J. H. Spencer, Mgr.

CHARLES BOND CO., 617 Arch St., Philadelphia, Pa. Sou. Reps., Harold C. Smith, Greenville, S. C.; Harold C. Smith, Jr., Greenville, S. C.; John C. Turner, P .O. Box 1344, Atlanta, Ga.

BORNE, SCRYMSER CO., 17 Battery Place, New York City. Sou. Mgr., H. L. Siever, P. O. Box 1169, Charlotte, N. C. Sales Reps., W. B. Uhler, 608 Palmetto St., Spartanburg, S. C.; R. C. Young, 1216 Kenilworth Ave., Charlotte, N. C.; John Ferguson, 303 Hill St., LaGrange, Ga.

BROWN CO., DAVID, Lawrence, Mass. Sou. Reps., Ralph Gossett, Woodside Bldg., Greenville, S. C.; William J. Moore, Woodside Bldg., Greenville, S. C.; Belton C. Plowden, Griffin, Ga.; Gastonia Mill Supply Co., Gastonia, N. C.; Russell A. Singleton, Dallas, Tex.; S. Frank Jones, 209 Johnston Bldg., Charlotte, N. C.

CAMPBELL & CO., JOHN, 75 Hudson St., New York City. Sou. Reps., M. L. Kirby, P O. Box 432, West Point, Ga.; Mike A. Stough, P. O. Box 701, Charlotte, N. C.; A. Max Browning, Hillsboro, N. C.

CAROLINA REFRACTORIES CO., Hartsville, S. C.

CHARLOTTE CHEMICAL LABORATORIES, Inc., Charlotte, N. C.

CHARLOTTE LEATHER BELTING CO., Charlotte, N. C.

CIBA CO., Inc., Greenwich and Morton Sts., New York City. Sou. Offices and Warehouses, Charlotte, N. C.

CLINTON CO., Clinton, Iowa. Luther Knowles, Sou. Agt., Box 127, Telephone 2-2486, Charlotte, N. C. Sou. Reps., Grady Gilbert, Tedephone 1132, Concord, N. C.; Clinton Sales Co., Inc., W. T. Smith, 2 Morgan Bldg., Greenville, S. C.; Lee Gilbert, Box 481, Tel. 2913, Spartanburg, S. C.; A. C. Boyd, 1071 Bellevue Drive, N.E., Tel. Hemlock 7055, Atlanta, Ga.; Dana H. Alexander (Mill and Paper Starch Div.), Birmingham, Ala. Stocks carried at Carolina Transfer & Storage Co., Charlotte; Consolidated Brokerage Co., Greenville, S. C.; Atlanta Service Warehouse, Atlanta.

CORN PRODUCTS REFINING CO., 17 Battery Place, New York City. Corn Products Sales Co., Greenville, S. C., John R. White, Mgr.; Corn Products Sales Co., Montgomery Bldg., Spartanburg, S. C., J. Canty Alexander, Asst. Sou. Mgr.; Corn Products Sales Co. (Mill and Paper Starch Div.), Hurt Bldg., Atlanta, Ga., C. G. Stover, Mgr.; Corn Products Sales Co., 824-25 N. C. Bank Bldg., Greensboro, N. C., W. R. Joyner, Mgr.; Corn Products Sales Co., Comer Bldg., Birmingham, Ala., L. H. Kelley, Mgr. Stocks carried at convenient points.

CRESPI, BAKER & CO., 411½ S. Tryon St., Charlotte, N. C.

CROMPTON & KNOWLES LOOM WORKS, Worcester, Mass. Sou. Plant, Charlotte, N. C.

CUTLER, ROGER W., 141 Milk St., Boston, Mass. Sou. Office, Woodside Bldg., Greenville, S. C. Sou. Agents: B. L. Stewart Roller Shop, Laurinburg, N. C.; Dixie Roller Shop, Rockingham, N. C.; A. J. Whittemore & Sons, Burlington, N. C.; The Georgia Roller Covering Co., Griffin, Ga.; Textile Roll Covering Works, LaGrange, Ga.; East Point Roller Cov. Co., East Point, Ga.; Dixie Roll & Cot Co., Macon, Ga.; Morrow Roller Shop, Albemarle, N. C.; Peerless Roll Covering Co., Chattanooga, Tenn.; Textile Roll & Cot Co., Dallas, Tex.; Greenville Textile Supply Co., Greenville, S. C.; Anniston Roll Covering Co., Anniston, Ala.

DARY RING TRAVELER CO., Taunton, Mass. Sou. Rep., John E. Humphries, P. O. Box 843, Greenville, S. C.; Chas. L Ashley, P. O. Box 720, Atlanta, Ga.

DAUGHTRY SHEET METAL CO., Charlotte, N. C.

DENISON MFG. CO., THE, 145 Lyman St., Asheville, N. C. Sou. Rep., L. B. Denison, Genl. Mgr.

DILLARD PAPER CO., Greensboro, N. C., Greenville, S. C., Charlotte, N. C. Sou. Reps., E. B. Spencer, Box 1267, Charlotte, N. C.

DRAKE CORP., Norfolk, Va.

DRAPER CORPORATION, Hopedale, Mass. Sou. Rep., E. N Darrin, Vice-Pres.; Sou. Offices and Warehouses, 242 Forsyth St., S.W., Atlanta, Ga., W. M. Mitchell; Spartanburg, S. C., Clare H. Draper, Jr.

DUNKEL CO., PAUL A., 82 Wall St., New York City.

DU PONT DE NEMOURS & CO., Inc., E. I., Organic Chemicals Dept., Dyestuffs and Fine Chemicals Div., Wilmington, Del. John L. Dabbs, Sou. Sales Mgr.; D. C. Newman, Asst. Sou. Sales Mgr.; J. D. Sandridge, Asst. Sou. Sales Mgr.; E. P. Davidson, Asst. Mgr. Technical. Sou. Warehouses, 414 S. Church St., Charlotte, N. C. Reps., C. H. Asbury, H. B. Constable, J. P. Franklin, J. F. Gardner, L. E. Green, M. D. Haney, W. R. Ivey, S. A. Pettus, A. W. Picken, N. R. Vieira, Charlotte Office; J. T. McGregor, Jr., James A. Kidd, 1035 Jefferson Standard Bldg., Greensboro, N. C.; John L. Dabbs, Jr., G. H. Boyd, 804 Provident Bldg., Chattanooga, Tenn.; R. D. Sloan, T. R. Johnson, Greenville, S. C.; W. F. Crayton, Adam Fisher, Jr., W. A. Howard Columbus, Ga.; J. A. Franklin, Augusta, Ga.; Tom Taylor, Newnan, Ga.

DU PONT DE NEMOURS & CO., E. I., Grasselli Chemicals Div., Wilmington, Del. W. C. Mills, Dist. Sales Mgr., 414 S. Church St., Charlotte, N. C.

DU PONT DE NEMOURS & CO., E. I., Rayon Div., F. H. Coker, Dist. Sales Mgr., 414 S. Church St., Charlotte, N. C. Acetate Div., J. J. Cook, Dist. Sales Mgr., 414 S. Church St., Charlotte, N. C.

DU PONT DE NEMOURS & CO., Inc., E. I., The R. & H Chemicals Dept., Wilmington, Del. R. M. Levy, Dist. Sales Mgr., 302 W. First St., Charlotte, N. C.

EATON, PAUL B., 213 Johnston Bldg., Charlotte, N. C.

ENGINEERING SALES CO., 217 Builders' Bldg., Charlotte, N. C.; S. R. and V. G. Brookshire.

FOSTER MACHINE CO., Westfield, Mass. Sou. Reps., R. W. Ensign, 813 Johnston Bldg., Charlotte, N. C.

FRANKLIN MACHINE CO., 44 Cross St., Providence, R. I.

FRANKLIN PROCESS CO., Providence, R. I. Sou. Plants, Greenville, S. C., and Chattanooga, Tenn.

GENERAL COAL CO., 1215 Johnston Bldg., Charlotte, N. C., C. L. Rowe, Sou. Sales Mgr. Reps., J. W. Lassiter, F. W. Reagan, E. H. Chapman, Charlotte, N. C.; J. C. Borden, Grace American Bldg., Richmond, Va.; D. H. R. Wigg, Wainwright Bldg., Norfolk, Va.; W. A. Counts, Law & Commerce Bldg., Bluefield, W. Va.; H. C. Moshell, Peoples Bank Bldg., Charleston, S. C.; P. W. Black, Greenville, S. C.; H. G. Thompson, Bristol, Tenn.

GENERAL DYESTUFF CORP., 435 Hudson St., New York City. Sou. Office and Warehouse, 1101 S. Blvd., Charlotte, N. C., B. A. Stigen, Mgr.

GENERAL ELECTRIC CO., Schenectady, N. Y. Sou. Sales Offices and Warehouses, Atlanta, Ga. E. H. Ginn, Dist. Mgr.; Charleston, W. Va., W. L. Alston, Mgr.; Charlotte, N. C., E. P. Coles, Mgr.; Dallas, Tex., L. T. Blaisdell, Dist. Mgr.; Houston, Tex., E. M. Wise, W. O'Hara, Mgrs.; Oklahoma City, Okla., F. D. Hathway, B. F. Dunlap, Mgrs. Sou. Sales Offices, Birmingham, Ala., R. T. Brooke, Mgr.; Chattanooga, Tenn., W. O. McKinney, Mgr.; Ft. Worth, Tex., A. H. Keen, Mgr.; Knoxville, Tenn., A. B. Cox, Mgr.; Louisville, Ky., E. B. Myrick, Mgr.; Memphis, Tenn., G. O. McFarlane, Mgr.; Nashville, Tenn., J. H. Barksdale, Mgr.; New Orleans, La., B. Willard, Mgr.; Richmond, Va., J. W. Hicklin, Mgr.; San Antonio, Tex., I. A. Uhr, Mgr.; Sou. Service Shops, Atlanta, Ga.; W. J. Seibert, Mgr.; Dallas, Tex., W. F. Kaston, Mgr.; Houston, Tex., F. C. Bunker, Mgr.

GENERAL ELECTRIC VAPOR LAMP CO., Hoboken, N. J. Sou. Reps., Frank E. Keener, 187 Spring St., N.W., Atlanta, Ga.; C. N. Knapp, Commercial Bank Bldg., Charlotte, N. C.

GOODYEAR TIRE & RUBBER CO., Inc., THE, Akron, O. Sou. Offices and Reps., W. C. Killick, 209-11 E. 7th St., Charlotte, N. C.; W. Reynolds Barker, 141 N. Myrtle Ave., Jacksonville, Fla.; C. O. Roome, 500-6 N. Carrollton Ave., New Orleans, La.; J. H. Neiberding, 1128 Union Ave., Memphis, Tenn.; W. R. Burtle, 3rd and Guthrie, Louisville, Ky.; R. G. Abbott, Allen and Broad Sts., Richmond, Va.; E. A. Filley and R. B. Warren, 214 Spring St., N.W., Atlanta, Ga.; J. L. Sinclair, 700 S. 21st St., Birmingham, Ala.; Atlanta Belting Co., Atlanta, Ga.; Battey Machinery Co., Rome, Ga.; Bluefield Supply Co., Bluefield, W. Va.; Gastonia Mill Supply Co., Gastonia, N. C.; Knoxville Belting & Supply Co., Knoxville, Tenn.; Laurel Mach. & Fdry. Co., Laurel, Miss.; Orlando Armature Works, Orlando, Fla.; McComb Supply Co., Harlan, Ky., and Jellico, Tenn.; Mills & Lupton Supply Co., Chattanooga, Tenn.; Mississippi Fdry. & Mach. Co., Jackson, Miss.; Moore-Handley Hdwe. Co., Birmingham, Ala.; Morgan's, Inc., Savannah, Ga.; Mulberry Supply Co., Mulberry, Fla.; C. T. Patterson Co., Inc., New Orleans, La.; Pensacola Tool & Supply Corp., Pensacola, Fla.; I. W. Philips, Tampa, Fla.; Pye-Barker Supply Co., Atlanta, Ga.; Railey Milam Hdwe. Co., Miami, Fla.; Sullivan Hwde. Co., Anderson, S. C.; Superior Iron Works & Supply Co., Shreveport, La.; Taylor Iron Works & Supply Co., Macon, Ga.; Textile Mill Supply Co., Charlotte, N. C.; Tidewater Supply Co., Norfolk, Va., Columbia, S. C., Asheville, N. C.

GREENVILLE BELTING CO., Greenville, S. C.

GREENSBORO LOOM REED CO., Box 1375, Greensboro, N. C. Phone Greensboro 5071 collect. Geo. A. McFetters, Pres. and Mgr.; Geo. H. Batchelor, sales manager.

GULF OIL CORPORATION OF PA., Successor to **GULF REFINING CO.**, Pittsburgh, Pa. Division Sales Offices: Atlanta, Ga.—A. W. Ripley, Greenville, S. C.; T. C. Scaffe, Spartanburg, S. C.; J. H. Hooten, Gastonia, N. C.; R. G. Burkhalter, Charlotte, N. C.; G. P. King, Jr., Augusta, Ga.; Boston, Mass.; New York, N. Y.; Philadelphia, Pa.; New Orleans, La.; Houston, Tex.; Louisville, Ky.; Toledo, O.

HART PRODUCTS CORP., 1440 Broadway, New York City. Sou. Mgr., Charles C. Clark, Box 274, Spartanburg, S. C. Sales Reps., Tally W. Piper, Box 534, Fairfax, Ala.; W. R. Sargent, Greenville, S. C.

H & B AMERICAN MACHINE CO., Pawtucket, R. I. Sou. Offices, 815 The Citizens and Southern National Bank Bldg., Atlanta, Ga., J. C. Martin, Agt.; Johnston Bldg., Charlotte, N. C.; Elmer J. McVey, Mgr.; Fritz Sweifel, Fred Dickinson, Jim Miller, sales and service representatives.

HERCULES POWDER COMPANY, Wilmington, Del. Distributors—Burkart-Schier Chemical Co., Chattanooga, Tenn.; Hercules Powder Co., Paper Makers Chemical Div., Atlanta, Ga. Warehouses—American Storage and Warehouse Co., 505-513 Cedar St., Charlotte, N. C.; Textile Warehouse Co., 511-513 Rhett St., Greenville, S. C.; South Atlantic Bonded Warehouse Corp., Washington and Macon Sts., Greensboro, N. C.

HERMAS MACHINE CO., Hawthorne, N. J. Sou. Rep., Carolina Specialty Co., P. O. Box 520, Charlotte, N. C.

HOLBROOK RAWHIDE CO., Providence, R. I. Sou. Distributors, Odell Mill Supply Co., Greensboro, N. C.; Textile Mill Supply Co., and Charlotte Supply Co., Charlotte, N. C.; Gastonia Mill Supply Co., Gastonia, N. C.; Sullivan Hdw. Co., Anderson, S. C.; Montgomery & Crawford, Spartanburg, S. C.; Carolina Supply Co., Greenville, S. C.; Fulton Supply Co., Atlanta, Ga.; Southern Belting Co., Atlanta, Ga.; Greenville Textile Mill Supply Co., Greenville, S. C., and Atlanta, Ga.; Young & Vann Supply Co., Birmingham, Ala.; Waters-Garland Co., Louisville, Ky.

HOUGHTON & CO., E. F., 240 W. Somerset St., Philadelphia, Pa. Sou. Sales Mgr., W. H. Brinkley, 1410 First National Bank Bldg., Charlotte, N. C. Sou. Reps., Walter Andrews, 1306 Court Square Bldg., Baltimore, Md.; C. L. Elgert, 1306 Court Square Bldg., Baltimore, Md.; C. B. Kinney, 1410 First National Bank Bldg., Charlotte, N. C.; D. O. Wylie, 1410 First National Bank Bldg., Charlotte, N. C.; J. J. Reilly, 2855 Peachtree, Apt. No. 45, Atlanta, Ga.; James A. Brittain, 1526 Sutherland Place, Homewood, Birmingham, Ala.; J. W. Byrnes, 333 St. Charles St., New Orleans, La.; B. E. Dodd, 333 St. Charles St., New Orleans, La.

HOUGHTON WOOL CO., 253 Summer St., Boston, Mass. Sou. Rep., Jas. E. Taylor, P. O. Box 2084, Phone 3-3692, Charlotte, N. C.

HOWARD BROS. MFG. CO., Worcester, Mass. Sou. Office and Plant, 244 Forsyth St., S.W., Atlanta, Ga., Guy L. Melchor, Mgr. S.W. Rep., Russell A. Singleton, Mail Route 5, Dallas, Tex.

KENNEDY CO., W. A., 814 S. Tryon St., Charlotte, N. C. W. A. Kennedy, Pres.

JACOBS MFG. CO., E. H. Danielson, Conn. Sou. Rep., W. Irving Bullard, Pres., Charlotte, N. C. Mgr. Sou. Service Dept., S. B. Henderson, Greer, S. C.; Sou. Distributors, Odell Mill Supply Co., Greensoro, N. C.; Textile Mill Supply Co., and Charlotte Supply Co., Charlotte, N. C.; Gastonia Mill Supply Co., Gastonia, N. C.; Shelby Supply Co., Shelby, N. C.; Sullivan Hdw. Co., Anderson, S. C.; Montgomery & Crawford, Spartanburg, S. C.; Industrial Supply Co., Clinton, S. C.; Carolina Supply Co., Greenville, S. C.; Fulton Supply Co., Atlanta, Ga.; Southern Belting Co., Atlanta, Ga.; Greenville Textile Mill Supply Co., Greenville, S. C., and Atlanta, Ga.; Young & Vann Supply Co., Birmingham, Ala.; Waters-Garland Co., Louisville, Ky.

JACKSON LUMBER CO., Lockhart, Ala.

KEEVER STARCH CO., Columbus, O. Sou. Office, 1200 Woodside Bldg., Greenville, S. C.; Daniel H. Wallace, Sou. Agt. Sou. Warehouses, Greenville, S. C., Charlotte, N. C. Sou. Reps., Claude B. Iler, P .O. Box 1383, Greenville, S. C.; Luke J. Castile, 515 N. Church St., Charlotte, N. C.; F. M. Wallac;e, 1115 S. 26th St., Birmingham, Ala.

LAUREL SOAP MFG. CO., Inc., 2607 E. Tioga St., Philadelphia, Pa. Sou. Rep., A. Henry Gaede, P. O. Box 1083, Charlotte, N. C.

McLEOD, INC., WILLIAM, 33 Elm St., Fall River, Mass. Sou. Rep., Edward Smith, Asheboro, N. C.

MAGUIRE & CO., JOHN P., 370 Fourth Ave., New York City. Sou. Rep., Taylor R. Durham, First Nat'l. Bank Bldg., Charlotte, N. C.

THE MERROW MACHINE CO., 8 Laurel St., Hartford, Conn. E. W. Hollister, P. O. Box 721, Spartanburg, S. C.; R. B. Moreland, P. O. Box 895, Atlanta, Ga.

NATIONAL OIL PRODUCTS CO., Inc., Harrison, N. J. Sou. Offices and Plant, Cedartown, Ga. Sou. Reps., D. Rion, Cedartown, Ga.; C. E. Elphick, 12 Lanneau Drive, Greenville, S. C.; R. B. MacIntyre, care D. G. MacIntyre, Franklinton, N. C.; Paul Starke, 2026 Eaton Place, Baltimore, Md. Warehouse, Chattanooga, Tenn.

NATIONAL RING TRAVELER CO., 257 W. Exchange St., Providence, R. I. Sou. Office and Warehouse, 131 W. First St., Charlotte, N. C. Sou. Agt., C. D. Taylor, Gaffney, S. C. Sou. Reps., L. E. Taylor, Box 272, Atlanta, Ga.; Otto Pratt, Gaffney, S. C.; H. B. Askew,, Box 272, Atlanta, Ga.

N. Y. & N. J. LUBRICANT CO., 292 Madison Ave., New York City. Sou. Office, 1000 W. Morehead St., Phone 3-7191, Charlotte, N. C., Spartanburg, S. C., Atlanta, Ga., Greenville, S. C.

NORLANDER MACHINE CO., New Bedford, Mass. Sou. Plant, 213 W. Long St., Gastonia, N. C.

NORMA-HOFFMANN BEARINGS CORP., Stamford, Conn. Sou. Rep., E. W. Lawrence, 1841 Plaza, Charlotte, N. C.

ONYX OIL & CHEMICAL CO., Jersey City, N. J. Sou. Rep., Edwin W. Klumph, 1716 Garden Terrace, Charlotte, N. C.

PARKS-CRAMER CO., Plants at Fitchburg, Mass., and Charlotte, N. C. Atlanta Office, Bona Allen Bldg.

PERKINS & SON, Inc., B. F., Holyoke, Mass.

PROVIDENT LIFE & ACCIDENT INS. CO., Chattanooga, Tenn. Southeastern Div. Office, 203 Commercial Bldg., Gastonia, N. C.

RHODE ISLAND TOOL CO., Providence, R. I. Sou. Rep., Henry Anner, Box 1515, Greenville, S. C.

ROY & SONS, B. S., Worcester, Mass. Sou. Office, 21 Byrd Blvd., Greenville, S. C. John R. Roy, Representative.

SACO-LOWELL SHOPS, 147 Milk St., Boston, Mass. Sou. Office and Repair Depot, Charlotte, N. C., Walter W. Gayle, Sou. Agent; Branch Sou. Offices, Atlanta, Ga., John L. Graves, Mgr.; Greenville, S. C.

SEYDEL CHEMICAL CO., Jersey City, N. J. Sou. Rep., Harold P. Goller, Greenville, S. C.; Alexander W. Anderson, 10 Milton Ave., Edgewood, R. I.

SEYDEL-WOOLLEY & CO., 748 Rice St., N.W., Atlanta, Ga.

SHERWIN-WILLIAMS CO., THE, Cleveland, O. Sou. Warehouses: Richmond, 1315 E. Main St.; Savannah, 655 E. Liberty St.; Charlotte, 222 W. First St.; Spartanburg, 158 E. Main St.; Columbia, 1713 Main St.; Atlanta, 70 Broad St., N.W.; Columbus, 1038 Broadway; Nashville, 711 Church St.; Chattanooga, 826-28 Broad St.; Birmingham, 2016 Third Ave., N.; Montgomery, 33 Commerce St.; Knoxville, 314 S. Gay St. Sou. Reps., E. H. Steger, 222 W. 1st St., Charlotte, N. C.; R. B. Olney, 158 E. W. O. Masten, 2308 S. Main St., Winston-Salem, N. C.; T. R. Moore, 509 Westover Ave., Roanoke, Va.; G. N. Jones, 207 Glascock St., Raleigh, N. C.; W. H. Mastbrook, 105 W. Iver St., Greensboro, N. C.; John Limbach, 70 Broad St., N.W., Atlanta, Ga.; D. S. Shimp, 3 Cummins Station, Nashville, Tenn.; O. A. King, Apt. 1, 2400 Barton Ave., Richmond, Va.; James C. Wilkinson, 230 Bay View Blvd., Portsmouth, Va.

SIGNODE STEEL STRAPPING CO., 2600-2620 N. Western Ave., Chicago, Ill. Sou. Warehouses and Offices, Greensboro, N. C., 908 Lakeview St., 'Phone 6935, O. B. Shelton, Rep.; Atlanta, Ga., 113 Courtland St., S.E., A. S. Stephens, Rep.; New Orleans, La., 700 Tchoupitoulas St., P. E. Odenhahl, Rep.

SOCONY VACUUM OIL CO., Inc., Southeastern Div. Office, 1602 Baltimore Trust Bldg., Baltimore, Md. Warehouses: Union Storage Warehouse Co., 1000 W. Morehead St., Charlotte, N. C.; Textile Warehouse Co., 511 Rhett St., Greenville, S. C.; South

Atlantic Bonded Warehouse Co., Greensboro, N. C.; New South Express Lines, Columbia, S. C.; Terminal Storage Corp., 317 N. 17th St., Richmond, Va.; Taylor Transfer Co., 102 Boush St., Norfolk, Va.

SONOCO PRODUCTS CO., Hartsville, S. C.

SOUTHERN SPINDLE & FLYER CO., Charlotte, N. C.

STALEY MFG. CO., A. E., Decatur, Ill. Sou. Offices, 1710 Rhodes-Haverty Bldg., Atlanta, Ga., Wm. H. Randolph, Jr., Sou. Mgr., L. A. Dillon, Asst. Sou. Mgr., 812 Montgomery Bldg., Spartanburg, S. C.; Geo. A. Dean. Reps., W. T. O'Steen, Greenville, S. C.; H. F. Taylor, Jr., Monroe, N. C.; John T. Higginbothem; H. A. Mitchell, Birmingham, Ala.

STEEL HEDDLE MFG. CO., 2100 W. Allegheny Ave., Philadelphia, Pa. Sou. Office Plant, 621 E. McBee Ave., Greenville, S. C., H. E. Littlejohn and J. J. Kaufman, Jr., Vice-Pres. in charge of reed plant; Atlanta, Ga., H. Raiford Gaffney, 268 McDonough Blvd., Greensboro, N. C., C. W. Cain.

STEIN, HALL & CO., Inc., 285 Madison Ave., New York City. Sou. Office, Johnston Bldg., Charlotte, N. C., Ira L. Griffin, Mgr.

STERLING RING TRAVELER CO., 101 Lindsey St., Fall River, Mass. Sou. Rep., Geo. W. Walker, P. O. Box 78, Greenville, S. C.; D. J. Quillen, P. O. Box 443, Spartanburg, S. C.

TERRELL MACHINE CO., Charlotte, N. C. E. A. Terrell, Pres. and Mgr.

TEXAS CO., THE, New York, N. Y. District Offices, Box 901, Norfolk, Va., and Box 1722, Atlanta, Ga. Bulk plants and warehouses in all principal cities. Lubrication Engineers, H. L. Marlow, W. H. Grose, W. P. Warner, Greensboro, N. C.; W. H. Goebel, Roanoke, Va.; A. H. Bamman, Norfolk, Va.; P. H. Baker, Spartanburg, S. C.; D. L. Keys, Richmond, Va.

TEXTILE APRON CO., 905 S. Main St., East Point, (Atlanta) Ga.

TEXTILE-FINISHING MACHINERY CO., Providence, R. I. Sou. Office, Johnston Bldg., Charlotte, N. C.

TEXTILE SHOP, THE, Franklin St., Spartanburg, S. C. E. J. Eaddy, Sec. and Treas.

UNIVERSAL WINDING CO., Providence, R. I. Sou. Offices, Charlotte, N. C., Atlanta, Ga.

U S BOBBIN & SHUTTLE CO., Manchester, N. H. Sou. Plants, Greenville, S. C.; Johnson City, Tenn., and Monticello, Ga. Sou. Reps., E. Rowell Holt, 1008 Johnston Bldg., Charlotte, N. C.; M. Ousley, P. O. Box 816, Greenville, S. C.; Chas. Sidney Jordan, Monticello, Ga., and L. K. Jordan, Sales Mgr., Monticello, Ga.

U. S. GUTTA PERCHA PAINT CO., Providence, R. I. Sou. Fac. Reps., J. S. Palmer, 1400-A Woodside Bldg., Greenville, S. C.; L. K. Palmer, P. O. Box 241, Birmingham, Ala.; William M. Moore, 601 Pearl St., Lynchburg, Va.; William H. Patrick, 216 S. Oakland St., Gastonia, N. C. Sou. Distributors Barreled Sunlight, D. A. Hines, 316 Twelfth St., Lynchburg, Va.; The Henry Walke Co., P. O. Box 1003, Norfolk, Va.; Bullington Paint Co., Inc., Fourth and Broad Sts., Richmond, Va.; Morgan's, Inc., 111 W. Broad St., Savannah, Ga.; Nelson Hdw. Co., 17 Campbell Ave., E. Roanoke, Va.; Atlantic Paint Co., 207 Meeting St., Charleston, S. C.; Pritchard Paint & Glass Co. of Asheville, 77 Patton Ave., Asheville, N. C.; Pritchard Paint & Glass Co., 12 W. 5th St., Charlotte, N. C.; Gate City Paint Co., 110 N. Greene St., Greensboro, N. C.; Montgomery & Crawford, Inc., Spartanburg, S. C.; The Townsend Lumber Co., Anderson, S. C.; Chapman Drug Co., 516 State St., Knoxville, Tenn.; The Eason-Morgan Co., 322 Second Ave., N., Nashville, Tenn.; Binswanger Co. of Tenn., 645-655 Union Ave., Memphis, Tenn.; Campbell Coal Co., 236-240 Marietta St., N.W., Atlanta, Ga.; Favrot Roofing & Supply Co., P. O. Box 116, Station G, New Orleans, La.; Standard Bldg. Mt. Co., Inc., 230 31st St., Birmingham, Ala.; Shaw Paint & Wallpaper Co., Durham, N. C.; Vick Paint Co., 219 W. Fifth St., Winston-Salem, N. C.; Baldwin Supply Co., Bluefield, W. Va.; Baldwin Supply Co., Beckley, W. Va.; Southern Pine Lumber Co., 104 E. Main St., Clarksburg, W. Va.; Rhodes, Inc., 809 Cherry St., Chattanooga, Tenn.; W. A. Wilson & Sons, 1409-25 Main St., Wheeling, W. Va.; Emmons-Hawkins Hardware Co., 1028 3rd Ave., Huntington. W. Va.; Baldwin Supply Co.,518 Capitol St., Charleston, W. Va.; Baldwin supply Co., Logan, W. Va.

VEEDER-ROOT, Inc., Hartford, Conn. Sou. Office, Room 1401 Woodside Bldg., Greenville, S. C., Edwin Howard, Sou. Sales Mgr.

VICTOR RING TRAVELER CO., Providence, R. I., with Sou. Office and Stock Room at 173 W. Franklin Ave., P. O. Box 842, Gastonia, N. C. Also stock room in charge of B. F. Barnes, Jr., Mgr., 1733 Inverness Ave., N.E., Atlanta, Ga.

VISCOSE CO., Johnston Bldg., Charlotte, N. C., Harry L. Dalton, Mgr.

WAK, Inc., 814 S. Tryon St., Charlotte, N. C. W. A. Kennedy, Pres.

U. S. RING TRAVELER CO., 159 Aborn St., Providence, R. I. Phone 4685, 107 Elm St., Greenville, S. C.

WHITIN MACHINE WORKS, Whitinsville, Mass. Sou. Office, Whitin Bldg., Charlotte, N. C., W. H. Porcher and R. I. Dalton, Mgrs.; 1317 Healey Bldg., Atlanta, Ga. Sou. Reps., M. P. Thomas, Charlotte Office; I. D. Wingo and M. J. Bentley, Atlanta Office.

WHITINSVILLE SPINNING RING CO., Whitinsville, Mass. Sou. Rep., H. Ross Brock, LaFayette, Ga.

WILLIAMS & SONS, I. B., Dover, N. H. Sales Reps., C. C. Withington, 710 Woodside Bldg., Greenville, S. C.; R. A. Brand, 203 Latta Arcade, Charlotte, N. C.; P. B. Raiford, 188 Washington Lane, Concord, N. C.

WINDLE & CO., J. H., 231 S. Main St., Providence, R. I.

WOLF, JACQUES & CO., Passaic, N. J. Sou. Reps., C. R. Bruning, 306 S. Chapman St., Greensboro, N. C.; G. W. Searell, Jefferson Apts., 501 E. 5th St., Chattanooga, Tenn.

WYTHEVILLE WOOLEN MILLS, Inc., Wytheville, Va. Sou. Reps., Charlotte Supply Co., Charlotte, N. C.; Montgomery & Crawford Co., Inc., Spartanburg, S. C.; Sullivan Hardware Co., Anderson, S. C.; Southern Belting Co., Atlanta, Ga.; Russell A. Singleton, Jackson, Miss., and Dallas, Tex.; Proximity Mercantile, Greensboro, N. C.

Bob Barnwell Married

Robt. E. Barnwell, manager of the Southern offices of Lockwood, Greene & Co., at Spartanburg, S. C., was married in New YoYrk on September 14th to Mrs. Victor Montgomery, Sr., widow of the former treasurer of the Pacolet Manufacturing Company.

The wedding guests included the bride's sister, Mrs. James C. Vanstory, of Washington, D. C.; Mr. and Mrs. C. L. Stafford, of Greensboro, N. C.; Walter S. Montgomery, of Spartanburg; Adair Wright, of New York, and a few intimate friends of New York.

Mr. and Mrs. Barnwell sailed at noon on the Kingsholm for a wedding trip abroad and on their return will make their home in Spartanburg.

A Visitor From Texas

We enjoyed a visit last week from W. H. Gibson, Sr., formerly a well known cotton mill superintendent but now farming near San Antonio, Tex. Mr. Gibson went to Texas in 1907 and was for a while superintendent at West and later at Waxahachie. About six years ago he established a mill supply business at Dallas, Tex., but later sold same and purchased his present farm.

While in this section Mr. Gibson visited his nephews, L. B. Gibson, superintendent of Union-Buffalo Mills at Fairmont, S. C., and W. H. Gibson, Jr., superintendent of the Martha Mills at Thomaston, Ga.

For

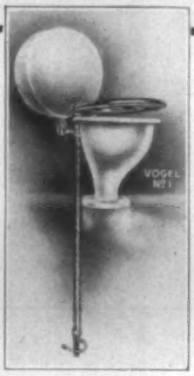
QUICK RESULTS

Use

Bulletin Want Ads

Read Every Week All Over the Textile South

VOGEL FROST-PROOF CLOSETS



have a Perfect Record

IN the twenty-eight years we have been manufacturing VOGEL Frost-Proof Closets there is no record of one ever freezing when properly installed. And during this time they have built up an amazing reputation for durability and economy.

Sold by Plumbers Everywhere

JOSEPH A. VOGEL COMPANY
Wilmington, Del. St. Louis, Mo.

VOGEL PATENTED *Products*

Where good rings have been made since 1873

The fathers and grandfathers of today's mill executives started a custom that has made this plant the world's largest independent ring maker. They went to *Specialists* when purchasing parts so highly important to smooth running as rings.

WHITINSVILLE (MASS.)
SPINNING RING CO.
DIAMOND FINISH
Makers of Spinning and Twister Rings since 1873

Southern Representative: H. ROSS BROCK, Lafayette, Georgia
Mid-West Representative: ALBERT R. BREEN, 80 E. Jackson Blvd., Chicago

Books That Will Help You With Your Problems

"Clark's Weave Room Calculations"

By W. A. Graham Clark

Textile Expert of U. S. Tariff Commission

Second edition. Completely revised and enlarged. A practical treatise of cotton yarn and cloth calculations for the weave room. Price, $3.00.

"Practical Loom Fixing" (Fourth Edition)

By Thomas Nelson

Completely revised and enlarged to include chapters on Rayon Weaving and Rayon Looms. Price, $1.25.

"Carding and Spinning"

By Geo. F. Ivey

A practical book on Carding and Spinning. Price, $1.00.

"Cotton Mill Processes and Calculations"

By D. A. Tompkins

Third edition. Completely revised. An elementary text book for the use of textile schools and home study. Illustrated throughout. Price, $2.00.

"Remedies for Dyehouse Troubles"

By Wm. C. Dodson, B.E.

A book dealing with just that phase of dyeing which constitutes the day's work of the average mill dyer. Price, $1.50.

"Cotton Spinners Companion"

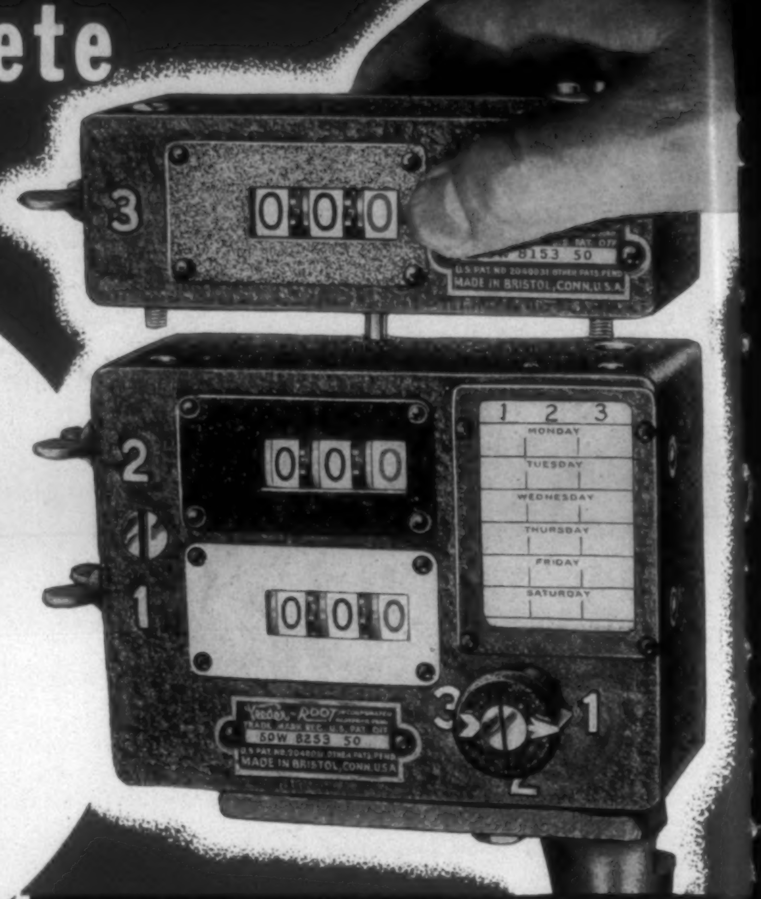
By I. C. Noble

A handy and complete reference book. Vest size, Price, 75c.

Published By

Clark Publishing Company
Charlotte, N. C.

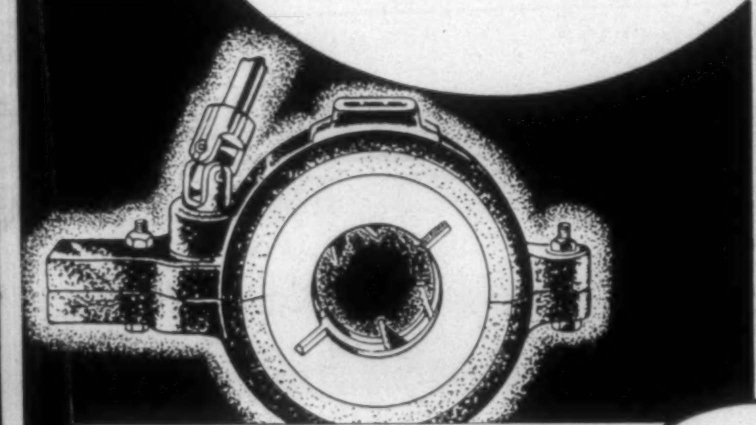
The Only Complete Pick Counter...

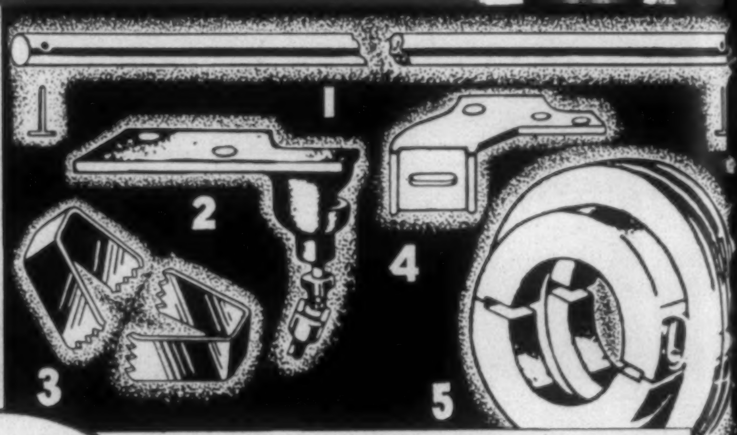


The Veeder-ROOT 2-3 RESET

There are no extras to buy or make, when you order Veeder-Root 2-3 Pick Counters. You get everything needed for complete installation of a 2-shift counter to take care of today's requirements. And if operation ever goes to 3 shifts, then you can quickly convert your 2-shift counter to a complete 3-shift counter . . . by simply adding the 3rd shift unit, as shown above.

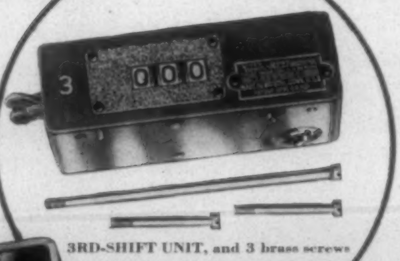
Observe what you get for your money when you buy a Veeder-Root 2-3 Pick Counter. *No other pick counter provides all these features . . . . .*





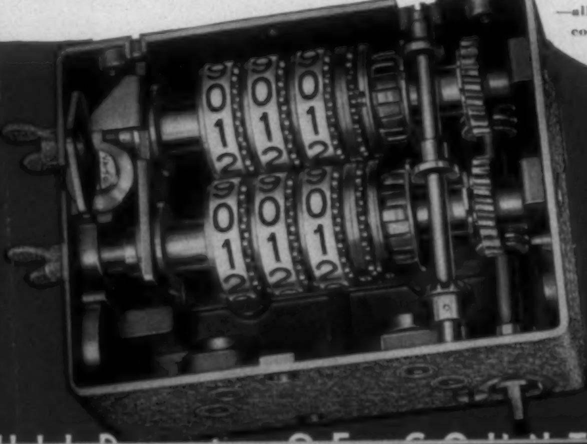
Above, *Worm & Housing*. Worm split for easy attachment. Lubricated by oil well, or Zerk or Alemite fittings. Universal joint permits drive at any angle up to 40°. Heavy milled thread gives long wear. Compression clamps remove need to drill shaft.

Below, *the Mechanism*, designed and made to give the accuracy and durability of a fine timepiece. An inside look at the best pick counter you can buy.



3RD-SHIFT UNIT, and 3 brass screws —all you need to convert a 2-shift counter to a 3-shift counter . . . in your own mill

1. **Drilled drive rod of cold rolled steel, with pins to fasten into universal joints.**
2. **Counter bracket.**
3. **Spring steel compression clamps (save installation costs).**
4. **Cast iron loom bracket, one of 48 styles.**
5. **Worm gear.**



Veeder-Root

VEEDER-ROOT INC., HARTFORD, CONN.
GREENVILLE, S. C.

BOSTON • PHILADELPHIA • MONTREAL • LONDON